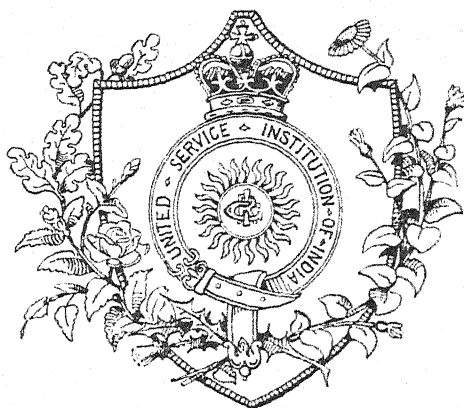


U.S.I. Library



Class No:

Book No:

11/22



JOURNAL
OF THE
United Service Institution
of India
Vol. XLIII.

January—October 1914.

Published under the Authority of the Council.

Printed at the
Royal A. T. A. Press,
SIMLA

1914.

Journal of the United Service Institution of India.

Vol. XLIII—1914.

CONTENTS.

	PAGE
AIRCRAFT. NOTES ON	567
By Captain J. G. Chamier, 33rd Punjabis.	
AS TOLD TO THE CHILDREN	321, 545
By "Paddy Button."	
CORRESPONDENCE	297, 643
BALKAN PENINSULA. INTRODUCTION TO THE STUDY OF THE WAR IN THE	199
By Captain M. Crofton, R. H. A.	
BRITISH ANTARCTIC EXPEDITION	469
By Dr. G. C. Simpson.	
DIARY OF THE WAR	463
FEDERAL INDIA	491
By "Cardo."	
FIELD SERVICE OFFICE EQUIPMENT	623
By Captain E. G. Hart S. and T. Corps.	
FORTIFICATION IN THE FIELD. NOTES REGARDING THE HISTORY AND USE OF	371
By Lieut. Colonel P. G. Twining, R. E.	
FRANCO GERMAN WAR. CAUSE AND EFFECT IN THE... ..	227, 361
By Major G. M. Orr, 11th K. E. O. Lancers,	
GOLD MEDAL PRIZE ESSAYS	5, 177
By Major A. G. Thompson, 58th Vaughans Rifles.	
By Captain A. H. W. Elias, 1st K. G. O. Gurkha Rifles.	
GURKHAS SETTLED IN INDIA. THE PROBLEM OF THE	147
By Major B. U. Nicolay, 1-4th Gurkha Rifles.	
HEADQUARTERS. THE POSITION OF	285
By "Ishmael."	
HINDUSTANNI ON THE VOYAGE	423
By Conductor H. C. Parks, India Miscellaneous List.	
ITALIAN CAMPAIGN IN ABYSSINIA	111
By Captain G. P. Stockley, 102nd K. G. O. Grenadiers.	
MIDDLE EASTERN QUESTION	91
By "A. B."	

MILITARY HISTORY. THE STUDY OF	...	...	513
By Brig.-General W. P. Braithwaite, General Staff.			
NORTH WEST FRONTIER AND PATHAN BORDERLAND	...		101
By Major E. W. Castello, V. C. 22nd Punjabis.			
NOTICES OF BOOKS	...	...	...171, 215, 449
PANAMA CANAL	...	...	127
By Captain A. M. Moens, 52nd Sikhs.			
PESHAWAR AND KOHAT BORDERS IN 1897, SITUATION ON			337
By Lieut. Colonel A. M. S. Elsmie, 56th Punjabi Rifles.			
QUARTERLY SUMMARIES	...	...	153, 301, 429, 636
RECRUIT TRAINING AND MAN MASTERSHIP. THE HOME			
SYSTEM OF...	...	...	265
By Captain O. C. Wilkinson, E. York Regiment.			
REPORT ON THE EXAMINATION FOR PROMOTION, IN			
INDIA, OCTOBER 1913	...	...	437
REVIEWS OF BOOKS	...	...	311, 449
ROYAL INDIAN MARINE. HISTORY OF THE...			67, 241, 403
By Comdr. E. J. Headlam, R. I. M.			
RUSSIA IN A WAR WITH THE TRIPLE ALLIANCE.			
ROLE OF	...	...	631
By Major Oberlindober.			
SANITARY FREEDOM IN THE ARMY IN INDIA. FIFTY			
YEARS OF	...	...	27
By Colonel R. H. Firth, A. M. S.			
SERVICE RIFLE. NOTES ON THE	...	...	277
By Major C. J. D. Freeth, R. A.			
SIKH WAR. AN INCIDENT IN THE FIRST	...	...	141
By Major H. Biddulph, R. E.			
STRATEGICAL STUDIES, 1865	...	...	387, 573
By Lieut.-Colonel A. W. Andrew, 114th Mahrattas.			
TRANSLATIONS FROM THE "RUSSKI INVALID"...	...		447

FOR REFERENCE

Not to be taken out

UNITED SERVICE INSTITUTION OF INDIA

JANUARY 1914.

SECRETARY'S NOTES

I.—New Members.

The following members joined the Institution between the 1st October 1913 and the 31st December 1913, inclusive:—

LIFE MEMBERS.

Capt. T. N. S. M. Howard.
Lieut. H. R. Stranack.
Lieut. H. C. Robson
Lieut. C. G. L. Tottenham.
Lt.-Col. W. D. Bird.

Capt. G. C. C. Clarke.
Lieut. I. S. Clarke.
Lieut. J. A. M. Scobie,
Capt. H. T. Morshead.
Major E. C. L. Wallace.

ORDINARY MEMBERS.

Capt. R. G. Alexander.
Lieut. St. J. V. Baker.
Lieut. H. Macdonald.
Lieut. J. R. V. Sherston.
Lieut. H. G. A. Fellowes.
Capt. E. Maxwell.
2nd Lieut. E. S. McL. Prinsep.
2nd Lieut. I. Campbell.
2nd Lieut. B. Onslow.
Brig. General K. E. Lean.
Captain. C. L. Norman.
Major. E. E. Barwell.
Captain. H. C. Pulley.
Capt. J. F. Barrington.
Br.-Genl. W. H. Dobbie.
Commdr. A. S. T. Bowden.
Major D'A. Legard.
Major F. C. Turner.

Lieut. H. W. Goldfrap.
Major General R. C. O. Stuart.
Brig. General O. B. S. F. Shore.
Capt. E. Walter.
Capt. E. S. Gillett.
Colonel E. H. Hazelton.
Lieut. J. C. Ward.
Lieut. H. W. L. Waller.
Capt. R. D. Jennings.
Colonel F. H. S. Thomas.
Major General E. S. May.
Capt. J. McL. G. Taylor.
Major General C. A. Anderson.
2nd Lieut. A. McD. Ritchie.
Capt. M. C. Cunningham.
Lieut. C. S. Andrewes.
Major H. Smyth.
Lieut. H. W. C. Brownlow.

HONORARY MEMBER.

H. Hensman, Esq.

II.—Tactical Problems.

To assist officers working for Q. (i) tactical schemes are issued by the Council of the Institution to members only, at Rs. 5 per scheme, which include criticisms and solutions by a fully qualified officer selected by the Council. 23 schemes are now available.

A number will be allotted to each member applying for papers, and solutions, must be sent under these numbers to the Secretary, Simla.

III.—Military History Papers.

(i) In order to assist candidates for the Staff Colleges, and other officers, in the study of military history, the Institution has for issue, to members only, sets of questions on selected campaigns. The following papers are now available:—

- (a) One paper on the Waterloo Campaign.
- (b) Two papers on Callwell's Small Wars.
- (c) Two papers on the strategy of the Russo-Japanese War.
- (d) Three papers on the battles of the Russo-Japanese War.
- (e) Two papers on the Afghan War, 1879-80
- (f) Two papers on the Crimean War.
- (g) One paper on the Indian Mutiny.
- (h) One paper on the Shenandoah Valley Campaign 1861-62.
- (i) One paper on the Bohemian Campaign, 1866, to the Battle of Koniggratz.
- (j) Other papers on the Campaign of 1806, the Shenandoah Valley Campaign, the Bohemian Campaign 1866, and the Franco-German War 1870-71 will shortly be ready.

The charge for these papers is Rs. 5 each, which includes criticism by fully qualified officers selected by the Council.

A number will be allotted to each member applying for papers, and answers must be sent under these number to the Secretary.

(ii) Pamphlets dealing with the Shenandoah Valley Campaign from April 1861 to June 1862, and the Bohemian Campaign, 1866, to the battle of Koniggratz inclusive. October 1913, can be obtained from the Secretary. Price one rupee each.

IV.—Roll of Members,

Copies of the Roll of Members, corrected to 1st June 1913, are available. Price Rs. 2 per copy, per V. P. Post.

V.—Premia for Articles in the Journal.

As it does not seem to be generally known that articles are paid for, as far as the resources of the institution will allow, members are informed that a sum not exceeding Rs. 400 is awarded for articles and reviews published in each Quarterly Journal.

VI.—Library Catalogue.

The library catalogue revised up to 1st November 1912 is now ready. Members requiring copies should kindly inform the Secretary. Lists of books since received are published quarterly with the Journal.

Price of catalogue Re. 1, or Re. 1-4-0 by V. P. P.

V.—Library,

Several instances have occurred lately of members who have asked for books from the library, having refused to accept them on delivery by V. P. P. Members are therefore informed that when books asked for are out at the time of receipt of the request, they are recalled under Library Rule No. 6 a fortnight after issue and sent to them.

If no instructions are received that they will not be wanted, unless received within a certain time, members will be held liable for the postage, whether they refuse them on delivery or not.

VIII.—Books and Maps presented to Library.

The acknowledgement of the Council for the following presentations are hereby recorded:—

Presented by H. Hensman, Esq.

- Campaign on the North-West Frontier by Captain H. L. Nevill.
- Life of Field Marshal Sir William Gomm by Francis Cutting Carr-Gomm.
- Gun Running and the North-West Frontier by the Hon. Arnold Keppel.
- The Heart of Asia by F. H. Skine, and E. I. Ross.
- The Forward Policy and its Results by Richard Isaac Bence.
- Lockhart's advance through Tirah by Captain L. J. Shadwell.
- Innermost Asia by Ralph P. Cobbold.
- Ten thousand miles in Persia by Major Percy Molesworth Sykes.
- My Experience of the Boer War. by Count Sternburg.
- The Cabinet and War by Major Evans Gordon.
- With Mounted Infantry in Tibet by Maj. W. J. Ottley.
- Through Shen-Kan by K. S. Clark and A. de C. Sowerby.

Presented by Captain B. J. Haslam, R. E.

Kriegsgeschichtlicher Atlas Zum Studium der Feldzüge der Neuesten Zeit,
By von Fritz Schirmer.

Presented by Colonel L. G. Watkins, R.A.

Burmese map found in the Palace at Mandalay in 1885.

IX.—Gold Medal Prize Essays.

The Council have chosen as the subject for the Gold Medal Essay for 1913-14 the following:—

"The tactics of street fighting as applied to Eastern Countries."

The following are the conditions of the competition:

- (1) The competition is open to all gazetted officers of the Civil Administration, the Navy, Army, or Volunteers.
- (2) Essays must be printed or type-written and submitted in duplicate.
- (3) When a reference is made to any work, the title of such work is to be quoted.
- (4) Essays are to be *strictly anonymous*. Each must have a motto, and enclosed with the essay there should be sent a *sealed* envelope with the motto written on the outside and the name of the competitor inside.
- (5) Essays will not be accepted unless received by Secretary on or before the 30th June 1914.
- (6) Essays will be submitted for adjudication to Referees chosen by the Council. No medal will be awarded if the Council consider that the best essay is not of a sufficient standard of excellence.
- (7) The name of the successful candidate will be announced at a Council Meeting to be held in August or September 1914.
- (8) All essays submitted are to become the property of the United Service Institution of India *absolutely*, and authors will not be at liberty to make any use whatsoever of their essays without the sanction of the Council.
- (9) Essays must not exceed 15 pages of the size and style of the Journal, exclusive of any appendices, tables, or maps.

X.—Northern and Southern Army Prize Essays.

The Council awarded the sum of Rs. 150 each on the usual conditions, for the best essays sent in from members of the Northern and Southern Armies by the 31st December 1913, on subjects selected by their respective Commanders.

The following subjects were selected :—

Northern Army.—"The best means of securing at peace manœuvres and in war, co-operation between British and Indian troops."

Southern Army.—"The consideration of the maintenance in the field of an army of 2 divisions operating in Afghanistan on the Southern Line of advance, against an enemy whose forces are organized on European lines."

XI.—Regulations of the U. S. I. of I.

As several amendments have lately been made to the Rules and Bylaws of the Institution, they have been reprinted and copies are circulated with this Journal.

XII.—Quarterly Summary.

A new feature was introduced in the October Journal, namely a summary of news of military interest. It is intended chiefly for those out of India or otherwise out of touch with the Army. It is at present only a beginning, but it is hoped that it will in due course form a valuable addition to the Journal when the idea has assumed a definite form.

XIII.—Army Lists.

The Institution is prepared to supply to members and units typed extracts or printed facsimile pages from old Army Lists, from the date of their being raised, for all units of the Indian Army at the following rates.—

Typed copy of each original page in Army List	... Re 1
Printed facsimile copy of each original page in Army List	... Rs. 2
Binding, if required	... extra.

XIV.—Madras Army, drawings of old regimental uniforms, badges, colours.

The Institution has official designs for the dress of Cavalry, Artillery and Infantry Units of the old Madras Army for the period about 1840-50; also the sanctioned designs for the buttons, and badges of each regiment and numerous sketches of the same and of regimental colours sent up for sanction, are available.

Any regiment which wishes to have their own designs may receive them on application. But as there is only one copy of the authorised dress of each arm at that period these can be reproduced, if several regiments wish to have them and agree to bear a share of the cost.

The Journal

OF THE

United Service Institution of India.

Vol. XLIII.

January 1914.

No. 194.

Gold Medal Prize Essay, 1912-13.

By MAJOR A. G. THOMSON. *58th Vaughan's Rifles (F. F.)*

SUBJECT.—“Examine the application of the main principles laid down in Field Service Regulations I. Chapter VII, (The Battle) to the conditions of a campaign in a terrain similar to that of Baluchistan and Afghanistan, against an Army organised on modern principles.”

MOTTO.—*Deus Providebit.*

In the following pages the reader is presumed to have gathered the main principles set out in Chapter VII, from the text-book itself. But before considering their application in a terrain similar to that of Baluchistan and Afghanistan, an outline of the chief physical characteristics of these countries may not be out of place.

Where illustrations are required they are taken from Afghan history ; not because that history contains the only examples of war in a similar country—campaigns in Abyssinia, Persia, Central Asia, might be quoted with equal relevance—but because the reader may wish for further detail regarding specific cases, and books of reference relating to Afghanistan will be readily available to him. It is true that unorganised tribal gatherings furnished the more serious opposition to our forces in Afghanistan, but this fact does not prevent fair deductions being made for use against an organised enemy.

Description of the Terrain.*

The terrain of Baluchistan and Afghanistan comprises four types—Desert, Mountain, Upland Valleys, Plateaux.

The deserts of Baluchistan and Southern and Western Afghanistan are either sandy valleys broken

Desert.

by barren rugged mountains, or broad wastes of rolling sand-hills. Their chief characteristics are intense heat, scarcity of water, absence of supplies, and few roads, which are heavy and sandy. The direction of the roads and the distance between the stages are determined by the presence of water. At many of the stages the latter is sufficient only for a small caravan; moreover, it is often brackish and mixed with deleterious salts. Neither fodder, except possibly for camels, nor firewood can be counted on. A military force would have to carry water and supplies, enough to last for ten days or a fortnight, according to the width of desert to be crossed; consequently only small and specially equipped parties could attempt the crossing.

Tracts of mountainous country cover the greater part of the region under consideration. Steep high

Mountain.

ridges, broken at frequent intervals by higher peaks, separate narrow winding valleys and gorges. The main ridges throw out spurs at all conceivable angles, forming a tangled maze of hills, which command nearly every corner of the lower ground between them, and furnish a succession of positions whence an advance can be resisted. The hills may be barren, as they generally are in the Southern portions of the tract, or densely wooded, as in the Northern. The ravines are often dotted with patches of cultivation, where the lie of the ground admits of water being brought on to it, and of terraces being formed to retain the moisture. The gorges are sometimes so narrow that a laden mule can scarcely pass through them. The mountain ranges are crossed by passes, which may be

* Military Report on Afghanistan.

Field Notes on Afghanistan.

and Afghan War, Official Account.

History of the 2nd Afghan War, Colonel H. B. Hanna.

deep gorges worn by the action of water, or mere depressions in the contour of the range with steep gradients leading up to them. Most of the passes form strong defensive positions. The height of the mountain ranges varies roughly from 5,000 feet above sea level in the South and West to 25,000 feet in the North-East. Consequently, in the higher tracts many of the passes are closed by snow in the winter months from November to March.

The high mountains of the Hindu Khush Range traverse Afghanistan from the North-East, forming a barrier North of Kabul, which is crossed by three important passes and by many smaller ones. Gradually becoming lower, the range takes a more westerly direction, where it is known as the Koh-i-Baba, and after dividing into three main branches it sinks into the Herat plain. A triangular mountain tract, impassable by any but small lightly equipped columns, stretches southwards from the Koh-i-Baba in the district known as Hazarajat. From the Hindu Khush a strip of mountainous country stretches south along the eastern frontier to Quetta. The effect is that all approaches to the centre of Government are barred by difficult passes, and the advance of any but small forces is restricted to certain definite lines.

Here and there the mountains recede and leave room for relatively broad and fertile valleys, such as the Upland Valleys. Logar Valley and Maidan, both near Kabul.

These valleys are extensively cultivated by means of irrigation. The irrigation channels are numerous, many of them deep and broad and lined by trees, and they restrict the free movement of all arms, especially of artillery and wheeled transport. Where the fields are cut into terraces, they have the same effect but in a lesser degree. Towards the south and west of the area, water is brought by *karez*s—underground tunnels with construction shafts sunk at short intervals along their course. As the level of the ground falls, these tunnels become open ditches which get gradually shallower until at length the water flows out on the surface. The water may be turned on to the fields at will, thus rendering them boggy and impassable. Where these obstacles do not interfere, however, the valleys are suitable to the action of all arms. There are many

villages, and orchards, all of which afford good cover. The usual type of village is a mud-walled enclosure flanked by one or two towers. Many of them form strong positions against rifle fire, but the dwelling houses are usually too dirty to give agreeable billeting accommodation unless they are first thoroughly cleaned.

The valleys are sometimes broken by hills, which may rise 1,000 feet above the general level. These are like the mountains already described, and are generally surrounded by a tumbled mass of foot-hills.

North of the great southern desert, which is called the **Registan**, a stony plain, broken by many undulations and low hills, rises gradually towards the mountains of the districts of Hazarajat and Zemin-dawar. Though the plain is cut up by many rivers and *nalas*, the greater part of it is waterless and barren. There is cultivation near the rivers, and water may also be found in *karezes*, and a few scattered oases, and in the *nalas* after rain.

In some parts of the country, for example the plain of Ningrahar and the country between Kandahar and Ghazni, and characteristics of the stony plateaux and fertile valleys are found side by side,

The larger rivers are subject to annual floods. The water rises with the melting of the snow in the mountains in March, reaches its greatest depth in April and May, and returns to its usual level in June or July. In their upper courses the rivers are mountain torrents, which rush down winding ravines. After leaving the hills they flow between high steep banks in broad channels, which are only entirely covered with water in flood time. In flood they are unfordable; at other times they may be forded at many points, but previous reconnaissance is always advisable in case of quicksands.

Since the climate of Baluchistan and Afghanistan is influenced more by physical features than by latitude, its variations must be noticed in this essay in so far as they might affect tactical operations. The range of temperature in the twenty-four hours may extend to 80

degrees Fahrenheit. Among the mountains the valleys are always much hotter than the hill-tops; and, besides, men get warm and are apt to catch chills after the exertion of climbing. In winter biting cold winds at any elevation, and snow at heights of over 5,000 feet may stop or hinder manoeuvres. Dust storms and hot winds may do the same in summer. In the plains at all seasons men and animals are apt to raise clouds of dust, which cause fatigue and advertise movement to a distance.

The rivers are not navigable, with the exception of portions of the two widely separated Kabul and Hel-mund streams. Navigable rivers cannot, therefore, be considered typical of the terrain.

A few roads fit for wheeled traffic, or capable of being quickly rendered fit for wheels, lead into the country over the easier passes, and cross the less rugged and less desert portions of the interior. Among the mountains the roads are either *nala-beds*, or narrow paths winding along the hill-sides. The *nala-beds* are too rough for anything but pack transport and are liable to be blocked at the gorges by freshets, which come down after rain and may last for a few hours or days. The hill-paths are generally too narrow to admit of broader formations than file for men and single file for animals. The gradients are often very steep; 1 in 10 is common, 1 in 4 or 5 may be met with. In the broader valleys and on the plains troops can march off the roads. In the cultivated parts there are cross tracks and paths from village to village. River bridges are few, but where the country is wooded material for bridging can be found, and in the more populated districts bridges could be made out of the woodwork of the houses. Elsewhere, material is scanty.

There are no telegraph and railway systems, and the telephone lines are so few that they need not be considered.

It may be said that the main features of a terrain similar to that of Baluchistan and Afghanistan are :—

Summary. (1) Desert, impassable to all but the smallest parties of specially equipped troops.

(2) Mountainous tracts where movement is difficult and direction is easily lost.

(3) Fertile valleys, where in spite of water channels and irrigated fields, it is easier to manoeuvre than in the mountains or the desert.

(4) Undulating plateaux, where troops can move across country more easily than elsewhere, but where water is scarce.

(5) A great number of strong defensive positions.

(6) Few lines of advance fit for the movements of large forces, and few roads suitable for wheeled transport and guns.

(7) Absence of lateral communications.

(8) Scarcity of supplies and billeting shelter in the greater part of the area, and difficulty of sending supplies far from the main lines of communication.

F. S. R. PART I.

Chapter IV (the Battle).

An air service will be useful in most parts of the terrain, though flying, except at a considerable height, after the sun is well up will be

Information. §§ 101 (1) and (2). 104 troublesome in the hot weather, owing to
(1): 108 (1) the altitude at which *remous* may be found
at the season. Among the mountains it will be difficult to find level spaces for starting and alighting,

Except in hilly areas the task of driving in the enemy's advanced parties may be given to mounted troops and horse artillery; but mounted troops should generally be supported by infantry on the principle of the mixed detachments used by the Japanese in Manchuria, because they will often come unexpectedly upon ground which is unsuited to horses. This happened with serious results, to quote one example, in the fighting round Kabul before Roberts' force was invested. Preliminary checks and repulses, which make it difficult for a commander to take the initiative, may thus be avoided.

In the hilly areas infantry and mountain guns must often do the work. Reconnaissance is exceptionally difficult in such ground, and a large number of infantry men should be trained for the work in peace time.

The signal service will be used to distribute information, and it may be noted that the weather is generally suitable for signalling by heliograph. Supplementary arrangements will be

required in enclosed parts of the country, especially among the hills where units will be split into detached bodies and the terrain though favourable to long distance visual signalling, may obstruct signalling through short distances. Messages will often be sent by hand in such country. Mounted men should be employed whenever the ground allows but dismounted messengers must often be used. Men who are skillful at finding their way in intricate country should be chosen for this task.

Where the Army can advance in two or more columns—as for instance between the Khyber and Kabul, and between Chaman and Girishk—it may be impossible for the advanced guards of the columns, or for parts of the general advanced guard, if one has been detailed, to co-operate. This happened in the advance on Kandahar during the second Afghan war, when the country prevented combined action by the two advanced guards though they were nominally under one man.† Again, hills which would prevent combined action separate the roads by which Kabul is approached from the North-East, or South. In these circumstances each column should have its own advanced guard, and the advanced guard commanders must be told all about the strategical and tactical situation to ensure co-operation between them.

An enemy may easily be lost sight of in broken or hilly country, *vide* the manoeuvres which preceded the Battle of Maiwand.* Reconnoitring bodies will have to be specially careful not to lose touch with the enemy after he has been found.

Owing to the restricted view, a forward position is essential for commanders of columns during an advance among the hills. Where the hills are barren commanders of small forces may be able to occupy commanding points during an action, but where the hills are wooded it will be difficult for them to get a good view. In such circumstances a commander should trust rather to report by signal and orderly than to personal observation. The warning against giving undue weight to incidents which one is able to see applies also to the commanders of quite weak bodies in enclosed hilly country.

Position of
Commanders.

† History of the 2nd Afghan War, Hanna : Vol. II, p. 232.

* History of the 2nd Afghan War, Hanna : Vol. III, p. 404.

The Attack.

Some of the open tracts of country are broken by undulations and by deep water-courses, which are Deployment. tions and by deep water-courses, which are 101 (1) and (2). dry except after rain. More than one road may sometimes be used, and troops can also march alongside the roads. Columns may, therefore, be shallow, covered positions for assembly can be found, and covered ways to the positions assigned to units will often be available.

Where the enemy's position overlooks a plain, it is more difficult to hide the deployment. Villages, orchards, trees and excavated earth on the edges of irrigation channels and *karezes* may give cover, if the area happens, to be a cultivated one. Water-courses, occasional oases, and deep folds of ground may help in less fertile areas. The enemy will probably know the range of all well-marked features, and if the development is to be covered by such features, it is important that the troops, should be hidden while moving to them. The troops, should, if possible, be deployed out of range; but even then, the operation should be hidden lest the enemy discover the commander's intentions. It will, accordingly, often be necessary to deploy before daylight or under cover of the mists which usually hang over the cultivated valleys in the early morning.

In the hills troops may be hidden, while deploying behind spurs and ridges, but since the lie of the ground will show the plan of attack to any observer, hostile scouts must be kept from occupying overlooking heights. There will seldom be room for formations of assembly, and as the narrow roads will necessitate long columns, the deployment will be slow, and it will be difficult to avoid bringing the men into action piecemeal. Arrangements must therefore be made to ensure that subordinate commanders know when the preparatory stage is completed, and commanders of the leading units should be specially careful not to commit their men, to action prematurely. †

† 103 (103) : 104 (5)

The Decisive Attack.

§§ 102 (3): 103 (1) and
(2): 105 (4): 106 (2)
and (6).

The features of the terrain which bear on the question whether tactical success may be expected by directing separated forces to converge on the battlefield are: (1) that the lines of advance are far apart, (2) that lateral communications between them are very bad, and (3) that the only points of convergence are obvious to the enemy and distant from the frontiers. While a strategical advance on more than one line is not forbidden by these considerations, tactical success should rather be sought by the use of a general reserve.

In many parts of the country cover will be found to hide the movements of a general reserve, while the formation of the ground will compel the armies to fight on a narrow front. In such circumstances it may be possible to manoeuvre the reserve after the development of the action has shown where the decisive attack can be made. But in mountainous country it should be remembered that the reserve cannot move quickly, and even when the battlefield is small it may be necessary to decide on the objective for the decisive attack soon after the action has commenced.

Most hill positions include features from which the rest of the line can be made untenable; but a commander should find out that features which apparently offer this advantage actually do so, before deciding to send the general reserve to capture them, because a great part of the position may be defiladed from them by other rising ground. The danger of a piercing attack being enveloped may be lessened by directing it along parallel spurs and by echelonning picquets on the ridges to its flanks.

In the hills good cover for a flank attack usually exists. In the broader valleys the general reserve may be able to surprise the enemy's flank by moving through the hills on the edge of the valley. In both cases, however, a flank attack may easily become isolated, and special thought should be given to keeping touch with the rest of the force.

Reconnaissance beforehand is the only way of arriving at a proper estimate. A night march may be necessary to give troops time to reach their destination, but progress over bad roads and rough ground is of course still slower during darkness.

Except among the mountains, mounted troops will find that

Action of the Cavalry. they can work in most parts of the country, though much of the ground is very rough.

§§ 104 (4): 106 2) Many of the hills are too steep for cavalry and the more level parts are often broken up by *nalas* and *karezes* in such a manner that men may come unexpectedly on bits of unrideable country as at Ahmed Khel, when our cavalry were stopped by undetected broken ground on the right of our line†. Again, before Sherpur was invested, our cavalry suddenly became entangled in a network of water channels and boggy ground.§ Further south, between Quetta and Kandahar, parts of the Takhtapul Valley were found to be quite unsuited to cavalry manoeuvres.|| Squadron leaders should remember that in such circumstances much depends on the work of the ground scouts.

On the other hand, the ground is not always so unsuited to the action of cavalry as it may appear. At the battle of Ahmed Khel, for instance, the Afghan horsemen were able to advance to the attack over rough hills on our left¶. While the usual rapid reconnaissance is necessary, to prevent the cavalry being sent to manoeuvre over impassable ground, it must not be taken for granted that ground, which appears from a distance too difficult is so in reality.

Though much of the terrain does not lend itself to the manoeuvres of a strong cavalry force, it may be possible to get the full advantage of large numbers by dividing them and placing them in several separate positions of readiness. Among the mountains there will be no opportunity of large masses of cavalry to co-operate in the battle, but suitable ground will often be found for small numbers.

†History of Afghan War Vol. III. p. 343.

§2nd Afghan War, Official Account, p. 255.

|| " " " " " pp. 162-3.

¶ " " " " " P. 355.

The more open parts of the country favour a converging
 Action of Artillery artillery fire against a hostile position,
 especially if heavy guns are available, but
 §§ 104 (4): 105 (1) to mirage at distant ranges will often neces-
 (4): 106 (3) and (4). sitate a far advanced observation station.* A force working
 among the mountains should have a large proportion of moun-
 tain artillery, because there both roads and country are unsuited
 to heavy guns, and even field guns may find it difficult to move.

Howitzers should be used to search out the enemy's sup-
 ports and reserves on steep reserve slopes.

Artillery fire may be continued against trenches which are
 placed high up on steep slopes until the assaulting infantry are
 about to enter them, as the assaulting line will be below the
 trajectory of the guns till the last moment.

Artillery may often be pushed well forward with the attack.
 At Maiwand the enemy brought two guns along a *nala* unob-
 served up to 400 yards from our line, and after they had opened
 fire the gun detachments were still well protected.† It is,
 however, easy to set an ambush for artillery in broken and hilly
 country; therefore it will generally be necessary to detail an
 escort for guns, even when they are sent to apparently unexposed
 positions. At Ahmed Khel two of our guns came so suddenly
 upon the enemy that they were obliged to open fire with ease
 at a range of a hundred yards, and to retire hurriedly for protec-
 tion to the nearest infantry.‡

Ridges with intervening valleys, high ground to a flank, or
 undulating ground in front of the position
 Mutual support in the Infantry attack. will allow rifle fire to be directed over the
 heads of the firing line. Parallel ridges
 § 105 (4) and spurs which run towards the hostile
 position will enable different part of the firing line to support
 one another's advance. Fire may often be directed with good
 effect against garden enclosures, village walls and the banks of

*Before Maiwand columns of men crossing in front of our reconnoitring patrols were thought to be rows of bushes through the mirage. (History of 2nd Afghan War: Vol. III, p. 899)

† History of and Afghan War, Vol. III. p. 411.

‡ Personal Narrative.

canals or *karezes* in front of other portions of the line. In intricate country a subordinate leader must look constantly to the situation of units to his right and left in order to keep touch and lose no chance of giving support by fire.

As in the case of artillery fire, a covering rifle fire may be kept up against high sited trenches till the last moment.

It will not be unusual to find that ground to a flank must first be captured in order to protect or support the main attack, or the enemy's position may be guarded by foot-hills from which his troops must first be driven.*

Preliminary Capture of Minor Tactical Points.

§ 105 (5) At the battle of Charasia an Afghan post on a hill outside the entrance of the Sang-i-Nawishta defile kept the British batteries out of range of the main position until the post was seized. † Roberts used the villages West of the Asmai Heights as an advanced position in his attempt to stem the advance of Muhammad Jan's army on Sherpur. ‡

But the most difficult situation occurs when the enemy holds successive ridges, each of which appears to be the main position until it is captured. Troops are apt to be discouraged by finding that the task which they thought nearly finished is scarcely begun. Commanders should, therefore, always be prepared for this emergency, and be ready to take the measures laid down in the text book without delay. At Charasia the right of the Afghan position was not discovered until a ridge, which was thought to be the main position, had been captured after which entirely new dispositions had to be made.§

In hilly or enclosed country a small part of the line will gener-

The Assault. ally begin the assault, and neighbouring units may not know what has occurred unless special attention has been paid to keeping touch. It is most important that an assault by a small part of the line should not be left isolated,

* Eastern face of Asmai heights, 2nd Afghan War, Official Account p. 267.

† 2nd Afghan War, Official Account pp. 216—222,

‡ " " " " 255—256.

§ " " " " 216—222.

If the assault is to be made up a steep slope, the final rush should not be too long, because if the men are blown and exhausted when they reach the trenches, they are sure to be driven back. How long the last rush should be depends upon the steepness of the slope and the physical fitness of the men, but the point from which it is made should be reached at a steady pace under cover of the fire of guns and rifles. In the case of high sited trenches, covering fire may make it impossible for the enemy to fire downwards at the assaulting troops.

The position may often be strengthened against recapture more quickly by building stone walls (sangars) than by digging trenches. Mountain guns may be the best kind of artillery to send forward into the position to resist a counter-attack and to pursue the enemy with fire. Among the hills, though pursuit on horseback may be impossible, mounted men can sometimes move quickly forward to commanding points, from which they can fire on the retreating enemy.

The Defence.

The country offers an unusual number of strong positions, Choice and Preparation of a defensive position: and the lines of advance are narrow and well defined. Supposing that the situation compels a commander to stand on the defensive, he will be able to find suitable ground without moving far: and since the direction of the enemy's advance can generally be foretold, there will often be time to prepare the position thoroughly.

But these facts should not be allowed to overshadow the disadvantages which attend a defensive attitude.

The defensive positions available may be roughly classified as:—

- (1) Those among intricate hills.
- (2) High ground overlooking relatively low and level country.
- (3) Positions of no great command.

In the first type the field of fire will be shortened by ridges in front, which, however, may be used as screening positions. The main position should be placed on ground which commands the

nearest ridges. From positions of the second type the attackers movements can be overlooked, the fire of artillery and infantry can be effectively combined, and the various parts of the line can easily support one another: but fire becomes plunging when the enemy arrives at short ranges, it is not easy to conceal the trenches, and dead ground often lies below them. These drawbacks may be overcome by placing the trenches near the foot of the slopes, but the geological formation of the hills may make the construction of communication from low sited trenches to the rear more than usually difficult. If a high sited position is preferred, the base of the hills should be swept by enfilading fire. Trenches for this purpose may often be hidden behind under-features, but even when this is possible they should always be provided with traverses or broken into short lengths. In both these types of position steep reverse slopes will often allow supports to do without artificial cover.

Positions of the third type, which are commonly found on the plateaux and in the larger valleys, generally command a wide field of fire, though it will probably be interrupted by water-courses and undulations, which may form covered approaches or rallying places for the enemy. If possible such cover should be fired into from the main position, but if this is not practicable advanced posts will often have to be used for the purpose, and these latter must be properly supported by fire from the main position. In cultivated areas it will sometimes be possible to cut the banks of irrigation channels, in order to flood dry water-courses and other low-lying dead ground and thus deny them to the enemy.

The construction of communications within the position, especially communicating trenches from the rear to the fire trenches, should be one of the first tasks to be undertaken, as it will require much time and labour.

As heavy rain often falls most unexpectedly, all trenches should be drained however settled the weather may appear. Villages, gardens, terraced fields and canals may be occupied by the firing line and supports in some districts, but it must be remembered that the ordinary type of building does not give protection against artillery.

High ground to a flank may command the position, or provide a screen for a hostile turning movement. The temptation to extend the front unduly in order to occupy such should be resisted; but picquets should be placed to watch it, and the local reserves of flank sections should be ready to defeat any attempt on the part of the enemy to use it.

With strong positions available the line may be held by small numbers. Gaps may be left, provided it is possible to defend them by flanking fire by day and to close them at night, and broader frontages may be given to units than be permissible on less favourable ground. Thus the enemy may be compelled to use a relatively large force for the general attack of the position and to weaken his reserve to a corresponding extent, while the defenders will be able to keep a strong general reserve in hand, or to hold an extended position without unduly weakening that body. But an commander ought to remember the principle that no ground, however strong, should be left entirely unprotected, for deserts may be crossed and precipices scaled by small parties.

The firing line should be self-supporting unless there has been time to make proper covered communication from the rear to the trenches. Where this has been done, supports may often be securely placed on steep reverse slopes or behind low cliffs which outcrop at the crests of ridges. In more level country a good deal of easily improved cover for supports and local reserves may be found in water-courses and undulations.

Gaps in ridges, depressions leading to the front, gardens and other enclosures may be used as starting points for local counter-attacks, and local reserves should be put near such places: but parallel spurs rather than re-entrants should be used for local counter-attack in hill positions. Strong local reserves should be stationed near points in the position from which parts of the line might be made untenable.

In enclosed country, and especially among wooded hills, only a small extent of front can be commanded by one man, and the position should be divided into narrower section than usual.

On a narrow battlefield it may not be difficult to move the reserve from the centre or even from flank to flank, except among mountains where troops march slowly and get quickly tired. Yet the farther the reserve has to go and the longer it is on the move, the less chance there is of surprising the enemy, so that if possible it should be placed from the first where it will be required.

When the counter-attack is made on the flank of a battlefield which happens to be bordered by hills, infantry picquets will be better able than cavalry to protect the flanks of the troops engaged in it. The whole strength of the cavalry may then be used to create an opportunity for the counter-attack, or to co-operate in other ways.

A central counter-attack is perhaps, more likely to succeed among hills than in other country, because while its flanks can often be protected by placing picquets on adjoining high ground, it is not, as a rule, easy for the attacking troops to support the threatened portion of their line.

Mountain guns will often be the best form of artillery to send with the counter-attack: the fact that an escort is almost always necessary for guns when they are pushed forward with attacking troops has already been referred to.

Subordinate leaders in the general reserve should be told the commander's intentions in full, because the counter-attack will often be much split up by difficult ground, and success will then depend on the initiative of junior commanders.

A favourable moment for the decisive counter-attack may occur when the enemy is entangled in the foot-hills which fringe so many of the positions, or when he is exhausted by attacking successive ridges in front of the main position.

Positions of readiness for the cavalry may be found in glens and valleys on the flanks. It will be advisable to protect them against surprise while they are waiting, by placing picquets on any high ground from which they might be fired on, but the picquets must be careful not to reveal the position of the cavalry

The Decisive
Counter-Attack
§§ 100 (2). 108 (3) (5)
and (7): 110.

Action of the
Cavalry.

§§ 109 (1): 110 (3).

by exposing themselves to view. In the defence as in the attack several positions of readiness may be necessary. and arrangement should be made for communication between them.

Among mountains, if lines of retreat suitable for horses can be found, small bodies of dismounted cavalry may be used to hold screening positions, as the speed with which they can get away gives them an advantage over infantry in this work.

The ground will seldom allow many guns to be placed together, and arrangements should be carefully planned to ensure communication not only between the artillery as a whole and the rest of the force, but also between the batteries on different parts of the position. It will generally be possible to place guns so that they can enfilade the attack to some extent, and exits from mountain passes or other defiles will often lie within heavy artillery range of the position. The enemy may be tempted by the presence of cover to move his reserves or cavalry within range of the defences where indirect fire, especially from howitzers, may be brought to bear on them, if their movements have been observed and reported to the artillery commander.

Some guns should be placed so as to help the local reserves of flank sections to drive back hostile turning movements, but the positions chosen for them should not prevent them from being used in the general plan of defence.

A good deal of labour must be expended in making roads to enable the guns to move about the position, and it will generally be necessary to clear tracks between alternative emplacements, and between indirect and direct fire positions. The soil will often be so unworkable that the gun detachments will require help in making emplacements for the guns.

In the hilly tracts, as a general rule, infantry will have to be employed to hold screening positions, but as already stated, dismounted cavalry may sometimes be used for the work. When the slopes leading back from a ridge which is being used as a screening position are steep, the advanced troops may hold on to it until the enemy gets comparatively

Action of the
Artillery.
§§ 108 (3) and (5): 109
(2) and (3): 110 (2).

Withdrawal of
the Advanced
Troops

§ § 108 (4): 109 (1).

close : for as soon as the men have moved a short way down the slope, parties in rear will be able to cover them by opening fire over their heads on to the ridge, thus preventing the enemy from coming far enough forward to fire down upon them while they are still within close range.

Advanced troops may, perhaps, puzzle and exhaust the enemy more readily among the mountains, but almost everywhere the troops in the main position can be so well hidden that the enemy's plans may be much upset, if advanced villages, gardens, canals, low hills and other features are skilfully held.

The Encounter Battle.

The probable difficulty of unreconnoitred ground may cause a

commander to hesitate when he meets the
 § 111. enemy unexpectedly ; but bold action is
 more than ever likely to be successful, be-

cause the enemy will also be inclined to hesitate, and because, if the army has to stand on the defensive eventually a strong position can usually be counted on near at hand. When roads are narrow and columns consequently long, the danger of troops coming piecemeal into action is, as already noted, unusually great. It is, therefore, important that news of the situation should be sent back along the columns, and that transport and noncombatants should be cleared off the roads in order that the troops may come up more quickly. In hilly country detached commanders should take steps to verify their idea of the situation, because the sounds of battle may not carry far, and their apparent direction is often unreliable.

Pursuit and Retreat.

There will not usually be more than one line of retreat
 open to a beaten army, and often there will

|| § 112 : 113. be no more than one road by which the
 main body can retire, Mountain passes

and rivers in flood time, will cause delay, but, on the other hand, if the main body can get across them in time, such defiles will help the rear guard to hinder the pursuit. The manoeuvring area may be so narrow that the only way in which the pursurer can get in front of the retreating army, in order to cut it off

at one of these obstacles, may be to send lightly equipped columns though the difficult country on the flank. If the roads by which the main body must retire are blocked by transport, the commander of the retreating army may have to send similar columns to forestall the pursuers. The strength, composition, and equipment of such parties will depend largely on the terrain to be crossed. The victorious commander must allow no plea of exhaustion, or want of supplies, to stand in the way of an energetic pursuit, *for results to be gained will justify him in pushing his men to the limit of endurance. A great deal of responsibility rests with the staff. It must be their aim to ensure that the best arrangements have been made to replenish supplies and ammunition, in order that the army may be able to meet the calls that will be made upon it.

Conclusion.

There remain a few points, which either have not been touched on in the preceding pages, or require emphasis before this paper is concluded. Owing to the difficulty of the country between the various lines of advance, it is seldom possible to send reinforcements from one line to another, and the only help which a force on one line can give to that on another is to act energetically enough to draw a part of the enemy upon itself, and thus weaken the opposition which the other force has to encounter. It follows from this that the force on any one line of advance must be strong enough to defeat unaided any opposition which it is likely to meet.

The physical obstacles, which the nature of the terrain places, first, in the way of movement, and, secondly, in the way of reconnaissances, are very apt to tempt a commander into those half-hearted measures "which never attain success in war." Owing to the difficulties of moving about, troops may be delayed to an unlooked-for extent, or they may be stopped altogether if subordinate leaders are not determined to push on at all costs, and it is almost inevitable that heart-rending reports of the difficulties and exhaustion which the troops are experiencing

*All Masjid, and Afghan War, Official Account,
Paiwar Kotai, " " " " "

P, 35.

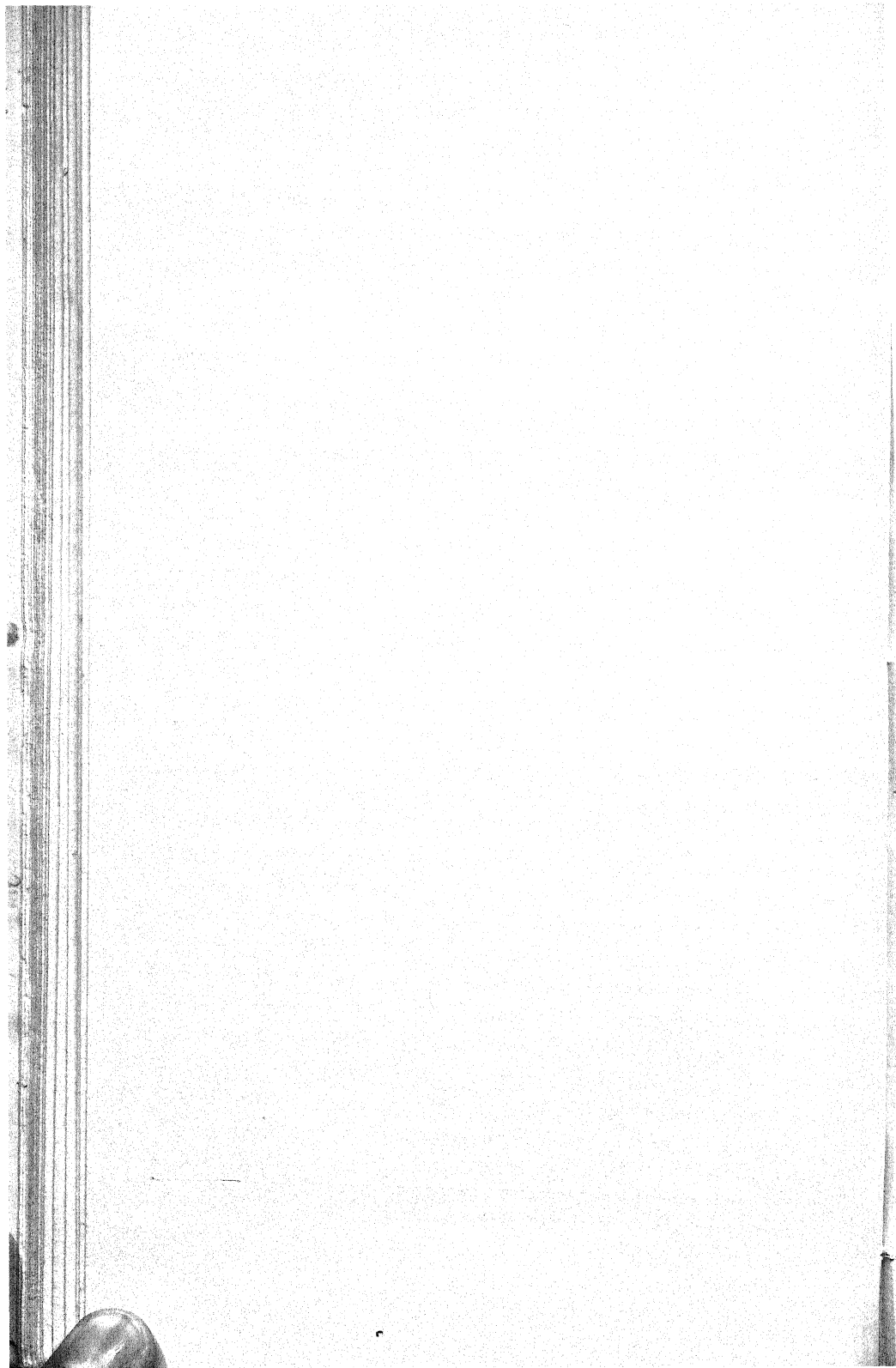
P, 125.

will reach the commander. He must, of course, see that his Staff take all possible steps to lessen the difficulties which the troops have to face, but he must resolutely set his mind against the temptation to turn back from the plan which, after due consideration, he has decided upon as best. The difficulties in the way of reconnaissance will often leave the troops in doubt as to the strength of the enemy's forces in front of them. There have been many cases of advanced guards being stopped by shots fired by a few scouts, and indeed of whole columns being delayed by the mere possibility of meeting the enemy in rough country, when in reality there was no enemy in the immediate neighbourhood. A tactical combination, entered upon by the Italians in Tripoli, was spoiled by the column, which had been entrusted with the flanking movements, being delayed in this manner among the sand dunes to the South of the Oasis. *

Lastly, although the business of supply is not discussed in F.S. R. I., Chapter VII., one may be excused for pointing out that, in a country like Afghanistan, the difficulty of feeding men and animals, and of bringing up ammunition and other necessary stores, may make a tactical manoeuvre impracticable, and the Staff should always consider how such difficulties can be overcome when issuing orders for a tactical movement.

So many difficulties have been dwelt upon that, perhaps, a word is required to guard the reader against forming an exaggerated picture of the mental and physical exertions, which a campaign in a terrain similar to that of Baluchistan and Afghanistan will demand from all ranks. The strain of a campaign in such a terrain will be severe, but at the same time it must be remembered that circumstances which present no problem have naturally been passed over in this essay, while the difficulties have purposely been discussed at some length. It would, of course, be folly in a commander to ignore these difficulties, but they should not loom too largely in his imagination, for courage and a strong determined spirit will never fail to find a way through them.

*4th December 1911, Personal Narrative.



Fifty Years Sanitary Effort in the Army of India.

A Lecture delivered at Simla on 10th September 1913.

By COLONEL R. H. FIRTH, A.M.S., A.D.M.S., of the 1st (Peshawar)
Division.

.....

Surgeon-General Sloggett, C.B., C.M.G., K.H.S., took the chair, and said:—"Your Excellency, Ladies and Gentlemen, at the commencement of the season here the Committee of the United Service Institution asked me if I could arrange for a lecture to be given on the improvement of health in the Army since the Mutiny. It is one of the usual lectures which we have during the season here. I said I should be delighted to do so and I approached Colonel Firth and asked him if he would kindly consent to deliver the lecture. After a good deal of persuasion, forcible persuasion, on my part, and extreme reluctance on the part of Colonel Firth, partly due to his innate modesty and partly due to his fear that the subject would be such a dry one and uninteresting to the general public, he consented to give the lecture and here he is straight from Peshawar.

"I do not think Colonel Firth needs any introductions in Simla. He is such an old friend here and so well known in Simla that really no introduction is necessary. Nor do I think the subject needs an apology, because really the improvement, not only in the health of the army, but in the health of the general British population of India, has been so wonderful during the last 50 years that I feel certain it is a question of great interest to every intelligent and thinking person. Colonel Firth has made this subject a special study of his life time and I think I may say, without any flattery to him, that he is one of the greatest authorities living on the subject of sanitation and hygiene. Then too, if you think of the general population of India, the educational effect which the training of the Indian soldier must have, must be a great source of good amongst the population when that man leaves the army and goes back to the reserve and goes to his native village.

"With these few remarks I will, with your permission, ask Colonel Firth to commence his lecture."

Colonel Firth.—Finding myself deputed to deliver this lecture before the Institution I early recognised that the task set me was far from easy. The difficulties lie in the fact that the subject is largely technical, bristles with figures, and is one peculiarly difficult to explain to a non-technical audience in an interesting or intelligent form.

In selecting the title "Fifty years of Sanitary Effort in the Army of India," one was actuated by the idea that it afforded a means of reviewing the progress of sanitation in the army and its associated results over a period practically synchronous with the present system of administration in this country. Fifty years carry us back to 1863, a year sufficiently remote from the upheaval of 1857 to present stable or normal conditions, and a year practically identical with the inception of systematic statistical returns concerning the health of troops. By Sanitary Effort, one means all those activities which aim at and contribute to the well-being of a community; it, more particularly, embraces those principles and practices of Preventive Medicine upon which all sanitation is based and, by adherence to which, sanitary effort becomes a real thing and not merely a name. By the expression "the army of India," one includes both European and Indian troops serving in the country.

To the thoughtful soldier, the presentment of a review of this nature calls for no apology; to the official civilian, its value may not be so evident but, even to him, confronted now with the great task of initiating and applying sanitary effort among and to the masses of India, a review of our experiences in military life should not be without interest, nor devoid of a lesson. It is true, the facts of which I am about to speak relate to but some 200,000 persons, a community small when compared with the 280 millions of people in India; but, even so, the results among the lesser number have been so good that they afford a very definite encouragement to those embarking upon the greater task.

The strength of the military community, during the fifty years under review, has varied and so has its distribution. I need not weary you with those details; it will be sufficient to

state that, in 1863, the average daily strength of the European army was 67,525 non-commissioned officers and men, and that of the Indian army was 58,462 non-commissioned officers and men; the corresponding strengths in 1912 were 71,001 and 132,232 non-commissioned officers and men. During fifty years, the average strength of the European army has been 63,166 non-commissioned officers and men, 1,957 officers, 4,956 women, and 9,533 children. The corresponding average strength of the Indian army has been 105,871 non-commissioned officers and men, 1,751 European officers, and 1,693 Indian officers. The data concerning the well or ill-being of these persons, during the last half century, have been taken from the annual reports rendered by the Army Medical Service to the War Office, and from the annual reports of the Sanitary Commissioner with the Government of India. The earlier returns in both series present some fallacies and ambiguities, mainly because they were not prepared with the exactness and attention to detail which characterises our modern reports, and also because the nomenclature of some diseases, current in the sixties, is not consistent with our present time nomenclature. The difficulties from these causes have been increased by the fact that in all earlier returns, that is down to 1876, the facts are considered separately for the three presidencies of Bengal, Madras and Bombay. In spite of these defects, one has been able to marshal the data in a sufficiently exact form, to enable me to affirm that the details, which I am about to put before you, are correct and afford a true picture of the circumstances during the period under review.

You may ask, what evidence from these data, can be accepted as an index or criterion concerning the health of the communities to which they relate? The evidence upon which we can rely is, the numbers constantly sick, the numbers dying, the numbers invalided, and the numbers admitted for and dying from the more common preventable diseases. To avoid difficulties in your being able to follow me, a series of tables has been distributed to you which give the essential facts, arranged in quinquennial periods and for the two standard years, 1863 and 1912. For the most part, the figures in those tables represent ratios per thousand of strength or men serving, but in certain

columns some actuals are given as likely to be of aid in grasping the magnitude of the disease and mortality which has prevailed. By putting the facts, largely, in the form of ratios, the figures are all strictly comparable and render unnecessary repeated references to the varying numbers present or serving in particular years. Moreover, with the exception of the figures relating to Indian troops prior to 1877, all the facts are expressed as for "all India," that is irrespective of Presidencies or local armies; unfortunately, the facts are not available, between 1863 and 1876, for the Indian troops in Madras and Bombay. This circumstance tends towards an overstatement of sickness and death rates, in the earlier years, as representing the facts for "all India," and for which larger area all the later figures relate; as we know that troops in Madras and Bombay suffered much less than those serving in Bengal and Upper India. Further, it should be noted that all the data refer to peace conditions or ordinary garrison life. In order to make the best use of the time at disposal it will be convenient to take you, first, over the essential facts in respect of both communities, Indian and European, and then discuss the causes or circumstances which have produced the facts or results and finally, draw from these results such conclusions as seem appropriate. Owing to the wealth of detail, presented by the subject, a serious difficulty is how to simplify its presentment, by the omission of detail, without sacrificing the accuracy of the picture one wishes to portray. Inasmuch as the data relating to Indian troops present fewer complexities than do those relating to European troops, I will begin with the facts associated with sepoys of the Indian army.

INDIAN TROOPS.

If you look at Table I, in the third column, you will find given the constantly sick rate for each thousand men serving. In 1863, forty six men of every thousand men were in hospital, that is were constantly sick or non-effective from some form of illness. That figure is the Bengal army ratio and, as expressive of "all India," is probably too high for reasons given. From facts within my knowledge, I am disposed to put the "all India" ratio as having been in that year not more than forty. In 1912, only 19.3 per 1000 men were correspondingly non-effective; this, of course

TABLE I.
INDIAN TROOPS.

Period.	Average Annual Strength	RATES OR CASES PER THOUSAND OF STRENGTH.										YEARLY OR QUINQUENNIAL ACTUAL.			
		Constantly Sick.	Deaths.	Invalided.	Wastage.	Malaria.	Non malarial Fevers	Respiratory Diseases	Phthisis.	CHOLERA.		Invalided.	CHOLERA.		DYSENTERY.
										Cases.	Deaths.		Cases.	Deaths.	
1863	3749	46.2	14.6	16.4	31.3	772	20.2	36.6	1.0	2.6	1.5	547	97	57	109
1863-77	36670	45.4	13.9	17.2	31.1	747	17.6	37.2	1.4	4.6	2.3	2548	843	422	440
1868-72	39838	43.2	15.1	15.7	34.8	710	15.3	46.0	2.3	4.1	2.5	3007	816	498	466
1873-77	51148	38.8	12.1	30.2	42.3	614	18.1	54.5	2.4	2.8	1.5	3519	758	406	406
1878-82	11887.4	48.2	24.5	35.0	55.6	754	3.5	85.2	2.6	3.1	1.8	15807	1842	1069	1070
1883-87	111281	32.3	12.3	22.6	35.4	441	25.5	49.6	2.6	2.2	1.2	7122	1224	667	657
1888-92	127433	35.6	14.2	14.2	28.4	487	25.5	46.3	2.8	2.1	1.9	9047	1911	1210	1146
1893-97	128518	30.6	11.0	14.5	25.5	325	26.4	40.4	2.7	0.6	0.4	7126	385	359	321
1898-02	125013	29.5	11.4	12.5	23.9	325	26.4	37.7	3.9	1.4	0.8	7126	875	499	500
1903-07	125278	23.4	7.9	7.3	15.2	226	27.8	31.7	3.8	0.5	0.3	4948	313	187	188
1908-12	130272	20.9	5.6	5.5	11.1	177	24.5	34.8	2.7	0.5	0.3	3647	325	195	195
1912	13232	19.3	4.4	4.5	9.0	88	44.0	32.8	2.1	0.6	0.5	585	85	59	26

(Bengal only)

is the ratio for all India. The difference between the two years is great. The rates for all intermediate years are not given in any of the tables, as it meant confronting you with a mass of figures of doubtful interest. The period between 1863 and 1912 is divided into quinquennia, and for each of these five year periods the various rates are given. A scrutiny of the constantly sick column shows that there has been a steady fall to the present satisfactory rate, marred only by rises in the two periods, 1878-82 and 1882-92. The former rise was due to the return to India of men who had been serving with their units in Afghanistan; while the second rise was due to the exceptional prevalence of cholera, dysentery, pneumonia and malaria in the years 1890-1 and 1892. From the point of view of numbers constantly non-effective, the fact needs to be appreciated that, in 1863, out of 37,459 men serving, in the so-called Bengal army, 1724 of them were in hospital each day; for the whole Indian army of that year, having an average strength of 58,642, not less than 2345 men were non-effective and in hospital each day. If we take the year 1877, out of a strength of 113,966 men, as many as 3,669 were similarly non-effective throughout that period; yet, in 1912, out of a greater strength of 132,232 only 2,560 were constantly sick.

Passing to the next column in the same table, it shows the death-rates in the same way. In 1853, we find that practically fifteen men died out of each thousand present; that figure is for the Bengal army alone and, for all India, is probably represented by one of twelve. In 1912, for all India only 4.5 succumbed. In actual deaths, on the Bengal figure, the difference between 1863 and 1912 is a loss of 879 men from a force in all India of 58,642 in the former year, as compared with a loss, in the latter year, of 585 men from a force of more than twice the strength. The rates for the intermediate years show irregularities, but the general trend is towards a steady fall. The years 1879 and 1880 give abnormally high death-rates for the whole of India; they were respectively, 35.15 and 39.22 and reflect the influence of the return of men from Afghanistan. The actual deaths were 4,257 in 1879 and 4,957 in 1880. The same characteristics are observable in the next column giving the invaliding ratios. Here, we find a

drop from seventeen in 1863 to 4.5 in 1912. The former figure is for Bengal only and, for all India, would probably be represented by fourteen or even fifteen. The fall has been reached only after considerable oscillations in the rate; and the ten years 1873 to 1882 show, in particular, very high figures, such as 36.8 in 1873, 39.3 in 1878, 35.7 in 1879, 39.9 in 1881 and 34.2 in 1882. These increments are reflections of the constantly sick rates for the same periods and are dependent on the same causes. The true importance of the figures for deaths and invaliding is shown really in the column of the Table which indicates what has been the wastage from deaths and invaliding combined. The wastage column constitutes, virtually, a summary of the preceding columns and, like them, shows a remarkable drop from a wastage of thirty one for the Bengal army, in 1863, from each thousand men to a corresponding wastage of nine per thousand in 1912 for all India. The disparity is equally manifest if we take the first year for which we get "all India" figures, that is 1877, and one undisturbed by war influences. That year, with a strength of 113,966 men gave a wastage of 3,646 men or a ratio of 39.5 per thousand, as against a wastage of 1190 in 1912. This is equivalent to an annual saving of 2,456 men.

In a lecture of this kind it would be inappropriate, even if it were possible, to analyse critically all the disease headings and their rates of prevalence or mortality, as contributing to the broad features already outlined. The most that one can do, and that probably is all that is needed, is to review briefly the facts as presented by the more dominant preventable diseases. In the case of the Indian soldier, they do not number more than half a dozen, and the main facts as to their incidence are given in the remaining columns of Table I. The first is that perennial source of inefficiency, the disease called malaria. In the army, thanks to discipline and efficient treatment, malaria contributes little to the death roll in these days; but, in the past, we have much evidence that it was otherwise. The figures in the table, under the head of malaria represent the number of admissions to hospital for treatment for that disease given by each thousand men. The figure for the year 1863 is 772, and represents really the Bengal army ratio; for all India, or the whole of India of

that day, it probably was not higher than 750. For 1912, in the whole Indian army of India, the figure is the much more modest one of 88, a difference which is suggestive of the change which has taken place. The ratios for quinquennial periods indicate a steady fall with the exception of the five years, 1878 to 1882, a period we know reflects the disturbing influence of the Afghan War. Apart from this the intermediate years between 1863 and 1912 yielded some very high rates of malarial prevalence though, from the manner in which the Table is prepared, they are not specifically shown, but betray themselves in the quinquennial averages. Thus, the year 1869 was a bad malarial season, giving in the army of Bengal an admission rate of 866; the following year was little better, as it gave a rate of 838. The next bad years were 1876-8 and 1879; this latter year gave the appalling admission rate for the whole Indian army of 978 for each thousand men, which means that in that year there were 110,435 admissions for malarial fevers, or nearly as many admissions as there were men serving. The following year gave an almost identical figure, for all India, as that of the Bengal army for 1863, this was clearly the heritage of infections from 1879; but, it is the last year in which a rate of over 700 is recorded, while 1881 and 1892 are the last years in which the malaria rate in the Indian army has exceeded 600 and 500 respectively per thousand of strength. Within the last twenty years, the rate has never exceeded 300 and, at present it hangs about 90, or roughly less than one eighth of what it was fifty years ago.

The next column shows the heading "non-malarial fevers," and embraces figures for a large group of pyrexias of possibly mixed causation. For the earlier years, the rates are for remittent and simple continued fever while, since 1908, they come under the heading of pyrexias of uncertain origin; a non-committal term which commends itself to this more critical age. Throughout the fifty years, this group of fevers embraces also the disease known as enteric fever. If you look at the figures in this column, you will notice that they have varied very little over the whole half century, a fact which supports the view that throughout they refer to the same diseases, though labelled

somewhat differently. To my mind, they represent the combined prevalence of simple continued fever, of sandfly fever and of enteric fever. The first named may be the result of a sun-exposure or a dietetic indiscretion and has little sanitary significance; the second is of quite modern recognition and a disease whose name betrays its causation; the third, though it has been known since 1849, finds no record in the statistical returns of the Indian army until 1905. For many years after enteric fever began to be shown in the health returns of the European army, there was a curious reluctance among medical officers doing duty with Indian regiments to admit the existence of enteric fever among Indian sepoys. That attitude does not pertain in the present generation, by whom an increasing number of cases of the disease are being detected and shown in the returns. But, even now, it cannot be admitted that the number of cases and deaths from enteric fever recorded in the Indian army returns, represent fully the real incidence of that disease among sepoys. The following table, shows the facts, as recorded for recent years, in respect of enteric fever among Indian troops.

Year.	Admissions.	Deaths.
1905	130	35
1906	127	34
1907	182	44
1908	350	73
1909	284	57
1910	329	58
1911	302	55
1912	234	43

In leaving the subject of the non-malarial fevers, we may infer that, while the figures show practically no change in the fifty years as to prevalence in the Indian army, there is other evidence to show that their nature is much better understood now than it was in 1863. In this fact, lies our real hope of their future diminution.

Respiratory diseases call next for attention. Their average incidence during the fifty years, has been about forty, in all India, for each thousand men serving. The rate was exceptionally high in the five years, 1878-82, for reasons which we know; at

the present time, their prevalence is much as it was in 1863 and, taken as a group, their mortality is negligible though, as a cause of inefficiency, it is a class of sickness which needs scrutiny. While bronchitis and ordinary catarrhs make up the bulk of cases under the head of respiratory diseases, that heading includes the figures for that infectious disease, called pneumonia. Among Indian troops, this disease assumes at times epidemic form and contributes proportionately to the death-rate. While for the fifty years, the incidence of pneumonia among Indian troops has been at a rate of 12.24 per thousand there have been years in which this ratio has been much exceeded. Thus, 1880 gave a rate of 26.7 and 1879 one of 20.8; similarly, 1875 had one of 19 and 1881 an attack rate of 17.5, while, 1890, 1898 and 1899 also give a figure over 16. The severest incidence seems to have been in the two decades of 1873 to 1882 and 1893 to 1902, in which twenty years no less than 30,723 admissions to hospital for this disease took place associated with 7,984 deaths. Of recent years, the number of cases has diminished sensibly but, even for the last quinquennium, the attack rate is 7.4 and the death-rate 1.9. Pneumonia appears most frequently in the returns from troops stationed in the Indus valley, in frontier garrisons of the north-west, and in the hill stations of an altitude below 5000 feet. Its prevalence in these localities is due partly to climatic austerities and to overcrowding in huts or barracks, in which once a few cases have occurred, the infectious nature of the disease soon manifests itself as an epidemic.

The next column furnishes figures as to the prevalence of phthisis or tuberculosis of the lungs, from which it will be seen that the present time shows an increased rather than a lessened prevalence as compared with the earlier years of the past half century. A striking feature of the statistical returns is, that they afford overwhelming evidence that it is among Gurkhas that the disease has increased. The accompanying tabular statement shows the essential facts for recent years. There are signs that this increment of tuberculosis among Gurkhas is checked but, even now, that class show an admission rate and a death-rate for this disease just twice as great as prevails among other races, constituting the rest of the Indian army.

Fifty Years Sanitary Effort in the Army of India. 37

	Army of India.		Gurkhas.		Excluding Gurkhas.	
Years.	Admissions.	Deaths.	Admissions.	Deaths.	Admissions.	Deaths.
1901	4'1	0'84	13'1	3'95	3'4	0'57
1902	4'3	0'80	15'6	4'24	3'2	0'47
1903	5'9	0'68	28'9	2'88	3'3	0'44
1904	3'9	0'51	10'6	2'66	3'2	0'28
1905	3'1	0'50	6'1	1'58	2'7	0'37
1906	2'5	0'52	5'2	2'41	2'2	0'29
1907	2'5	0'33	4'8	1'03	2'3	0'24
1908	3'0	0'42	5'0	1'43	2'7	0'28
1909	2'3	0'39	4'0	1'33	2'1	0'36
1910	2'4	0'19	3'7	0'62	2'3	0'15
1911	2'1	0'21	3'6	0'70	1'9	0'14
1912	2'1	0'22	3'8	0'84	1'7	0'15

We pass, now, to a consideration of the figures which testify to the greater or lesser prevalence of that dreaded disease, cholera. In the past, it is no exaggeration to say that cholera was a veritable nightmare to the whole military administration; and rightly too, for its manifestations were intensely explosive in character and accompanied by a toll of life that few in this generation realise. We shall see this more when the figures for the European army are passed in review. The figures, as presented for the

Rates per thousand of strength. Actuals.

Years.	Attacks.		Deaths.	
1865	5'7	2'8	183	91
1866	4'7	2'6	176	94
1867	6'2	3'2	244	124
1869	8'5	4'9	341	196
1872	7'0	4'7	276	182
1875	3'4	1'7	134	66
1878	3'8	2'1	440	242
1879	7'4	4'6	894	558
1888	3'2	2'2	399	274
1891	4'5	2'6	578	339
1892	3'3	2'2	421	280
1900	5'2	3'2	642	391

Indian army in the table, may suggest that the incidence of cholera among them, in the past, has been exaggerated; but you must bear in mind that the rates given are for "all India" and for five year periods, consequently, the heavy incidence of the disease in certain areas and in individual years is masked. The accompanying tabular statement gives the facts for a dozen of the worst years, but, for reasons already given, the figures prior to 1876 relate only to the Bengal army. The figures of actuals, especially those in Table I, give cause for serious thought. Taking the whole Indian army, it has to be recorded from the facts which are before you that, in the past fifty years, it has given by cholera no less than 5,509 deaths; of these, 920 occurred in the first decade and 1475 in the second. For both periods, the figures are an under-statement, as they are not inclusive of the bills of sickness and mortality in the Madras and Bombay armies of those times. Of the remainder, 1877 deaths occurred in the third decade, 856 in the fourth, and only 455 in the last ten years. In appraising the significance of these figures, it is to be borne in mind that the population exposed to risk in the last thirty five years has been more than twice as large as the population to which the figures relate in the first fifteen years.

There remains, still, the question of the prevalence of dysentery in the Indian army; the figures relating to it are given in Table I. It will be noted that this disease, which is essentially both infectious and preventable, contributes a very heavy attack rate to the health returns but a relatively low death-rate. To some extent, this latter feature is due to the circumstance that many chronic dysenteric cases are invalided out of the service, and which must have contributed, ultimately, to its death-rate. Taking the facts, however, as we find them, it is obvious that between the incidence in 1863 and that in 1912, there is a gratifying difference. The same is true of the death-rate. But, even so, it must be admitted that the number of admissions to hospital for this disease, as indicated in the figures of actuals, is far from satisfactory and calls for greater sanitary effort.

TABLE II.

EUROPEAN TROOPS.

Period.	Mean Annual Strength.	YEARLY RATIOS OR CASES FOR EACH THOUSAND MEN SERVING.										YEARLY AND QUINQUENNIAL ACTUALS.			
		Constantly Sick	Deaths.	Invalided.	Wastage.	Malaria.	Phtisias.	Dysentery.	Hepatitis.	CHOLERA.		Invalided.	CHOLERA.		ENTERIC.
										Cases.	Deaths.		Cases.	Deaths.	
1863	67525	65.6	22.6	34.4	58.0	438	12.6	48.7	6.7	5.5	4.1	23.3	37.1	277	—
1863-67	62202	59.1	24.3	42.6	67.4	313	11.8	44.8	5.6	7.1	4.3	131.0	2205	1199	—
1868-72	56095	57.4	23.1	42.7	67.8	361	11.2	45.5	5.6	8.5	3.4	123.40	2417	1591	166
1873-77	59040	54.6	19.7	41.3	67.0	271	10.5	27.1	4.1	5.2	1.4	121.80	657	4.2	462
1878-82	54370	68.1	20.5	39.1	59.6	569	7.2	42.8	3.7	5.7	4.2	100.0	1573	1131	896
1883-87	59661	69.3	14.1	26.2	40.3	301	6.1	30.8	26.6	2.2	1.5	70.0	633	434	1144
1888-92	67660	83.1	16.2	25.2	41.4	379	8.4	29.6	23.2	1.1	1.6	83.5	789	542	1766
1893-97	68838	93.4	18.7	27.6	43.3	363	4.1	31.6	18.3	1.3	0.8	91.7	813	603	1766
1898-02	63008	79.6	15.5	35.8	51.3	309	6.2	24.4	20.2	0.5	0.4	113.73	151	113	1768
1903-07	70109	54.4	10.7	28.0	38.7	172	2.4	14.0	14.6	0.5	0.1	98.23	172	117	1187
1908-12	71133	35.2	5.8	9.1	14.9	150	1.2	5.2	7.9	0.1	0.3	32.16	140	107	401
1912	71001	28.8	4.6	6.7	11.3	82	1.2	5.2	6.1	0.3	0.2	47.4	19	10	28

EUROPEAN TROOPS.

We are, now, in a position to consider the facts as presented by the statistical returns relating to the European army of India and see how far sanitary effort has succeeded or failed among them, during the past fifty years. Encouraging as the results have been in respect of Indian troops, those relating to the European army of India are infinitely more so. To illustrate what I have so say concerning this group, Table II has been prepared. To that tabular statement, I ask your attention. It is planned on identical lines as Table I, which we have been considering; and, if you have been able to follow me over the one, you will have little difficulty as to this other.

We begin with the rates for those constantly ill. In 1863 sixty-three men out of each thousand serving were constantly in hospital; in 1912, only twenty-nine were so non-effective. As you look over the figures, you cannot fail to be struck by the fluctuations which have taken place; very striking increments of constantly sick occurred in the twenty years from 1883 to 1902. So much so, that it may surprise you to hear that the ratios for 1883 and 1903 were practically identical with that for 1863, they being respectively 64 and 63·2; in other words, so far as the numbers constantly in hospital are concerned, there was little or no improvement for the first forty years out of the fifty, the change for the better manifests itself only in the last decade. The causes of this, one will discuss later on. Anyhow, we have the remarkable fact before us that, whereas in 1863, out of an average strength of 67,525 men, there were always 4,227 men ill in hospital; yet in 1912, with an average annual strength of 71,001, there were but 2044 similarly non-effective.

If you look at the next column, showing death-rates, a no less striking difference between the first and the last years of the half century is apparent; a death-rate of twenty four has become one considerably less than five or, in fact, the figure for the alien soldier from the West, serving in the East, is identical with that current for the Indian soldier serving in his own land. The death-rate for European troops, during the fifty years, has not shown the oscillations presented by their constantly sick rate;

but it is worth noting that the five years, 1878 to 1882, show a definite interruption to the steady fall which is, otherwise, the feature of the series. That rise is traceable to the influence of mobilisation on a large scale connected with the last Afghan war. To sum up the extremes, or first and last of the fifty years in terms of actual deaths, we can put it that the difference between 1863 and 1912 is between a loss in the former year of 1594 men, out of a force of 67525, and a loss in the latter year of 328 men from a force of 71,001; or, had our present death-rate been current in 1912, then, instead of a loss of 328, there would have been but 311, or a saving of 1283 lives. Conversely, had the death-rate of 1863 been current in 1912, then instead of a loss of 328, there would have been a loss of 1676 men or 1347 more than there were actually. A reference to the columns of actuals in the Table will show that, in the fifty years, the total loss by death in the European army of India has been 51,372, or an annual average of 1,017 deaths; the average for the last five years has been 415.

The invaliding rates, as given in the next column, call for no extended comment. They show a more or less steady fall from 34·4 in 1863 to 6·7 in 1912. The two quinquennia of 1878-82 and 1898-1902 are periods in which individual years yielded an increased number of invalids. The former reflects the influence of a trans-frontier campaign, while the latter reflects the results following the diminished arrival of young soldiers in India and the retention of men out here who, otherwise, would have gone home as time-expired. These disturbed conditions were the effect in India of the South African war. The numbers of men actually invalided in the fifteen years, 1863 to 1877, are instructive as showing the influence of long service men in the ranks as compared with the actually invalided in the quinquennia, 1883-7 and 1893-7, in which a short service system prevailed. Further, it is to be noted that the marked reduction in the invaliding rate, characteristic of recent years, has synchronised with the reduction of the death-rate, showing that neither result has been secured at the expense of the other.

The figures as to wastage are but a summary of the losses by deaths and invaliding. They call for no special analysis; all

one would say in respect of this series of ratios is, that the actual wastage of men lost from the army in 1863, was 3,918, while in 1912 but 802 men were so lost, namely, 328 who died and 474 invalided; also, that had the same wastage rate existed in 1912 as existed in 1863, then the total loss from the European army, in 1912, would have been 4,118 men or 3,316 men more than we actually did lose under our improved conditions.

We are now in a position to consider the facts as to the more common preventable diseases among European soldiers in India, and see how far sanitary effort has affected their prevalence and mortality. Only six diseases call for consideration; the main facts as to them are given in Table II. The first on the list is malaria. As in the Indian army, this infectious disease contributes largely to inefficiency. In 1863, every thousand men serving gave 438 admissions to hospital for malaria in the year; in 1912, the same number of men gave but 82 admissions, or a drop to less than one-fifth in the fifty years. The table does not give you the rates for individual years, but merely the mean for each quinquennium. Again, we find that the five years, 1878-82, give a figure in excess of any other period, probably owing to the circumstance that at that time there were a number of men in the ranks who had served and become infected in Afghanistan. The figures, generally, show a steady fall, period by period.

For European troops, it is unnecessary to consider the prevalence of non-malarial fevers, as a group, owing to the fact that we shall consider the most important of them, namely, enteric fever, separately. Neither, need we review the respiratory diseases, as a group, for they play but a small part in conducing to inefficiency. Their incidence in 1912 was a ratio of 11.7 as compared with one of 71.8 in 1863. Similarly, we need not specially review the prevalence, among European soldiers, of pneumonia except it be to remark that, at the present time, it prevails to about the same extent as it did in 1863. In the thirty years, from 1873 to 1902, the incidence increased from causes which it is difficult to explain other than by the fact that those thirty years were the darkest in respect of sanitary effort in the army.

I ask, however, your attention to the facts relating to phthisis or tubercular destruction of the lungs which are given in Table II. The figures as to tuberculosis of the lungs are suggestive of a definite progress. The high ratios which mark the first fifteen years of the period under review are undoubtedly the index of an indifferent hygienic standard as to barracks, in respect of ventilation and overcrowding. Those familiar with the report of the Royal Commission on the health of the army, published in the early sixties, and with the writings of Parkes and de Chaumont of about the same time will see in those high phthisis rates of 1862-7 a full justification of the teaching and recommendations of those pioneers in army sanitation which, by subsequent recognition and adoption, have led to the very low incidence of phthisis or pulmonary tuberculosis recorded, as now prevalent, in the figures before you. A unity ratio per thousand for tuberculosis of the lungs in 1912 is eloquent testimony as to the existing satisfactory condition of European barrack rooms in India.

Your attention is asked, next, to the column having the heading of "hepatitis" in Table II. By this term one gives the figures as to the prevalence of abscess of the liver and other inflammatory states of that organ, peculiarly associated with a residence in the tropics. You will note the remarkable difference between a ratio per thousand of 63.7 in 1863 of 6.1 in 1912. The intermediate years show a steady fall and call for no particular reference. The prevalence of this group of affections is intimately associated with the pervulence of dysentery and also with intemperate habits. The facts as to dysentery in the European army will be considered immediately; but, in connection with this remarkable diminution of hepatic disease among soldiers, it is interesting to see how far the admissions to hospital for alcoholism, during the last fifty years, refute or confirm the alleged relationship between the two series. One need not weary you with a mass of figures, but limit oneself to essential facts. They are that in 1863 the actual admissions to hospital for alcoholism were 151, ten years later they were 249; in 1883, they had risen to 477, but fell to 306 in 1893; by 1903, they were down to 164; three years later they were but 86, in 1909 but 57, and in 1912 they were 31. We see, therefore a definite parallelism between the two series of admissions and,

44 *Fifty Years Sanitary Effort in the Army of India.*

for my own part, credit this movement towards abstinence as a decided factor in the reduction of hepatic disease among European soldiers in India, and, moreover, as a legitimate manifestation of sanitary effort.

Dysentery heads the next column in the table. It is noticeable that this disease conduced in the past and conduces in the present to a much less amount of sickness and inefficiency than in the Indian army. The series of figures shows a more or less, steady fall through the fifty years. In that respect, dysentery in the European army follows the same course as hepatitis, and a ratio of prevalence of 84·7 in 1863 has become one of 5·2 in 1912. One need say nothing further about this.

The figures for cholera call now for examination. It will be seen from the table, that the prevalence of this disease in any magnitude has been limited to the first twenty years; on a much less severe scale in the next fifteen years, and in a very mild degree in the last fifteen years. What was said concerning cholera among Indian troops applies equally to the European army. The enforced arrangement of the figures, as expressing mean ratios for quinquennia, masks the real incidence of the disease in individual years. Certain years exacted a heavy toll

Year.	Admissions.	Deaths.	Years.	Admissions.	Deaths.
1863	371	277	1880	235	168
1864	241	162	1881	199	135
1865	269	194	1884	149	103
1866	135	81	1885	199	122
1867	1189	785	1887	158	127
1868	142	95	1888	204	129
1869	1439	972	1889	103	82
1871	119	63	1891	251	164
1872	634	426	1892	170	121
1875	288	194	1894	209	149
1876	205	136	1885	410	331
1878	305	226	1897	109	64
1879	737	544	1900	110	85

from cholera among European troops; the most terrible was the year 1861, but that year is not within the range of this review. Of the last fifty years, those given in the accompanying tabular

statement are the years in which the European army has suffered from cholera, to the extent of more than a hundred cases in the year.

Since 1900, there have been three years only in which the total of cases exceeded seventy; they were, 76 attacks in 1903 and 55 deaths; also the year 1906 had 72 cases and 44 deaths, and 1908 gave 93 attacks and 73 deaths. The columns in Table II which show the actuals, both of attacks and deaths, demonstrate clearly the heavy toll of sickness and death which cholera has exacted from the European army of India. In the fifty years under review, no less than 6,559 European soldiers have died from cholera alone; of these, 3,090 died in the first decade, 1553 in the second, 976 in the third, 716 in the fourth, and 224 in the last ten years.

I would call your attention next to the question of the prevalence of enteric fever among European troops, the control and reduction of which disease constitutes the brightest feature in the history of sanitary effort in the army of India. You will observe that, in the table there are no figures for this disease in the first quinquennium. The reason is that, until 1871, the name does not appear in any of our statistical forms or returns. This fact does not mean that the disease did not exist among troops before that date; it merely means that it was not recognised officially and that cases, which are now known to be and called enteric fever, were in earlier days recorded under the general heading of remittent and continued fevers. A study of the earlier returns convinces me that, in the European army of the sixties, the disease which we now call enteric fever existed to the extent of some six or seven per thousand of men serving. After the introduction of the name into our official forms and returns in 1871, that the disease only slowly began to be recorded was due to the fact that for many years the older type of regimental surgeon, not only questioned its existence as a disease entity but had a difficulty in recognising it. It was not until the end of the seventies that army medical officers were, generally, able to diagnose the disease with confidence and freedom from prejudice; and, even then, it is certain that the numbers of cases of the disease which were recorded really under-stated its prevalence. For that reason, we must regard the figures in the

table for the fifteen years from 1868 to 1882 as being but an imperfect record of circumstances then existing. From that date, until 1903, there is a steady rise in both the attack rate and the mortality rate.

Setting aside any question as to what part defective sanitary effort played during that twenty years, an undoubted contributory factor to the increase of enteric fever among troops at that time was the steady increase in numbers of young soldiers in the European army of India, following the introduction of the short service system at home in 1872. Its full influence was not felt in India, for some years, but the extent of that influence is shown, not only by the increased prevalence of enteric fever but, by the fact that the numbers of men below the age of 24 in the European army had risen from 33 per cent in 1877 to 55 per cent in 1898. Of the causes which have led to the reduction of both the attack and mortality rates from this disease, I do not propose now to speak. However, before leaving this subject of enteric fever, I ask your attention to the figures giving the actual numbers who have been attacked and died from that disease. Perhaps, the most impressive feature of those figures is the fact that, in the last fifty years, no less than 10,005 European soldiers died of enteric fever in India, a number far in excess of that attributable to cholera. Of these 10,005 deaths, only 166 are said to have occurred in the first decade, but for reasons given this figure must be considered as a serious under-statement. The other deaths are accounted for as 1,358 occurring in the second decade, as 2,910 in the third decade, as 3,983 occurring in the fourth, and as 1,588 dying in the last ten years.

Intimately associated with the reduced prevalence of enteric fever is the curious change which has occurred as to the ages of the men, over which the annual deaths of European soldiers have

Years.	Under 20	20-24	25-29	30-34	35-39	Over 40
1863	6.88	16.15	26.22	30.44	36.77	55.17
1886	13.72	17.24	13.75	12.15	23.42	17.72
1898	13.51	24.63	15.61	15.57	18.39	41.56
1904	2.72	10.70	11.43	12.74	10.81	22.57
1912	0.80	3.80	4.92	5.56	18.42	14.34

been and are now distributed. The accompanying tabular statement explains this sufficiently well; it gives the rates per thousand of strength, of the ages indicated of the deaths which occurred in various years of the period under study. Enteric fever being a disease peculiarly selective of the earlier years of manhood, the change in the ages of death or rather of men dying, before and after the initiation of direct steps to combat the disease, is manifest and furnishes corroborative evidence as to the existence of enteric fever among European troops in India, long before the disease appeared in the official returns of sickness and mortality.

Inasmuch as the majority of the other diseases, from which soldiers of the European army suffer, are either not amenable directly to sanitary effort or contribute but slightly to inefficiency and mortality, their detailed discussion is uncalled for. Exception must, however, be made in regard to what may be termed disabilities of incontinence, the outcome of a lack of will-power. In this category one places the enthetic diseases. From the wider standpoint as to what is sanitary effort, this group falls within the sphere of activities of the sanitarian: therefore, the lesser or greater prevalence now, as compared with the past, should be to the credit or discredit of sanitary effort in the army. The facts need not detain us long. In 1863, the admissions for enthetic disease amounted to 281 per thousand men: in 1873, the rate was 182, rising to 270 in 1883 and as high as 511 in 1893. Ten years later, it was down to 249, reaching 117 in 1906 and 68 in 1909. In 1912, it was as low as 55. In respect, therefore, of this group of diseases we must admit there has been a remarkable change for the better and, to the extension of the practice of abstinence and continence as sanitary precepts, we can credit sanitary effort as having appreciably contributed to the reduction of enthetic disease in the European army of India. It is curious to note that, even in respect of this disease group, the period of maximum incidence covers the eighties and nineties, or that twenty years in which, from other data, we have some reason to think that sanitary effort was least understood and least applied.

OFFICERS.

Concerning Indian officers of the Indian army we have no separate statistical returns, any casualties or sickness among them being included with those relating to the rank and file. As a class they suffer little from illness. As to European officers of the Indian army, we have no exact data prior to 1905. Those facts show that the number constantly ill or sick averages 20 per thousand of their number. Their death-rate is 4.2 per thousand, and the incidence of enteric fever among them is 6.1 per mille. Broadly speaking, the vital statistics of this class conform to the features presented by the corresponding class of the European Army in India, and what has to be said of the one applies equally to the other. Certain data concerning officers of the European army are given in Table III. From that table, it will be seen that the constantly sick rate in 1912 was 22.2 as compared with one of 29.2 fifty years ago. This is not a very remarkable drop and much smaller than that yielded by the men. The strength of European officers has varied; in 1912 the number with European troops was 2345, and their death-rate last year is a trifle lower than that of the rank and file or a fourth of what prevailed in the same class in 1863. The invaliding ratio for officers in 1912 was 16.24 per thousand present, and has been about that figure for some years. As compared with the corresponding rate of 6.68 for the men, the officer's rate seems high, but social circumstance makes the discrepancy more apparent than real. The worst feature of the group of figures relating to officers is the high rate of prevalence of enteric fever among them; their figure being nearly three times that of the men; it suggests a lower standard of sanitary effort in officer's messes and quarters than in the barracks and lines.

TABLE III.
EUROPEAN ARMY
RATES PER THOUSAND.

Period.	OFFICERS.				WOMEN.				CHILDREN.					
	Constantly Sick Rate	ENTERIC FEVER			Constantly Sick Rate	CHOLERA.		ENTERIC FEVER		Death Rate.	CHOLERA.		ENTERIC FEVER	
		Death Rate.	Case Rate.	Death Rate.		Case Rate.	Death Rate.	Case Rate.	Death Rate.		Case Rate.			
1863	29.2	17.5	...	...	31.5	43.7	4.9	2.4	...	...	...	...	...	...
1863-67	28.8	18.3	...	...	33.7	38.8	8.6	4.9	...	...	...	...	...	...
1168-72	25.2	18.7	...	...	32.5	35.6	5.7	2.8	...	...	...	...	...	...
1873-77	23.4	21.8	...	...	30.8	21.6	2.8	1.3	...	...	...	...	...	...
1878-82	25.8	17.5	...	...	32.2	23.0	3.3	1.6	...	...	...	...	...	...
1883-87	26.3	13.7	8.0	5.1	29.6	16.4	2.9	1.5	...	...	...	...	...	...
1888-92	29.5	24.4	28.3	5.6	24.8	17.3	2.2	1.0	...	...	...	...	...	...
1893-97	29.4	15.2	25.7	5.7	28.6	15.8	2.3	1.1	...	...	...	...	...	...
1897-02	28.2	15.3	27.6	6.2	24.3	15.2	0.5	0.2	...	...	...	...	...	...
1903-07	24.8	11.6	24.3	3.8	22.6	11.2	0.3	0.1	...	...	...	...	...	...
1908-12	21.2	6.4	15.2	0.8	20.4	8.7	0.2	0.1	...	...	...	...	...	...
1912	22.2	4.4	6.6	0.5	21.2	9.6	...	...	...	...	...	...	...	...

WOMEN AND CHILDREN.

Table III gives the chief data as to these classes belonging to the European army of India. The number of women has varied considerably in the fifty years; in 1863 they numbered 2,976 and in 1912, they were 4248. The greatest number present was in 1872, when they totalled 6,651, and the lowest was in 1864 when they totalled 2,706, but as late as 1894 the number dropped to 3,157. The constantly sick rate among the women which in 1863 was higher than that for officers, has dropped by 1912 to a point below the officer's figure. The same cannot be said for their death-rate; in 1863 it was 43.7 and in 1912 is 9.6; for both years, it is practically two and a quarter times as great as the officer's death-rate. This high mortality among the women is a far from satisfactory sign of the times; it is more than twice the death-rate prevailing among the same sex and age group at home, and twice as great as that ruling among officers and men in India. It is noticeable, too, that the prevalence of enteric fever among the women is enormously in excess of the same disease among the men. The small number of women inoculated against enteric fever may explain the disparity to some extent, but there are other factors at work and, as I shall have to show later on, we have not applied in respect of this disease the same principles and practices to the women and children as we have done to the men. No matter how we look at it, it is clear that the figures for the women in European lines do not show that progress, in the fifty years, which those of the men indicate to have been possible. A comparison of the cholera figures in Table II with those for the women in Table III will show how the incidence of that disease, in the past, affected both the women and the men in the same degree; typical instances of this fact are the excessive death-rates among the women in the two bad cholera years of 1867 and 1869, when the ratios were respectively 46.2 and 54.2 per thousand.

The number of children with European troops has varied much in the fifty years. In 1863, their number was 4,194 while, in 1912 they totalled 7046. The greatest number present was in 1874, when they were 12,393; and the lowest was in 1864 when

they were only 4120. Their constantly sick rate has dropped

	Under 6 months.	Between 6 and 12 months.	From 1 to 5 years.
1863	351'4	234'6	115'3
1867	349'8	235'3	114'9
1870	303'11	222'2	109'7
1872	330'75	298'6	104'8
1880	290'73	210'3	75'2
1885	237'09	175'15	34'1
1890	236'74	156'8	35'5
1894	250'64	142'52	31'4
1900	213'77	115'64	34'8
1906	190'65	87'87	27'5
1910	135'72	63'99	11'7
1912	142'45	72'83	20'4

to about a half in the fifty years, standing now at fifteen per thousand on the strength. A glance at the death-rate column will show you how great and lamentable has been the mortality among the children, particularly in the earlier years. For example, in 1867, 513 children died or a ratio of 105 per thousand present: similarly, in 1869, no less than 826 died or a ratio of 145 per thousand. One, perhaps, ought to remind you that both these were cholera years and to that disease much of this excessive mortality among the children was due. In 1863, the death-rate was 90'2 and for the first ten years of the fifty, it kept near that figure and only slowly has it come down to the present rate of thirty-four. This figure of thirty-four is, of course, for children of all ages, that is up to 15 years; it is about one third higher than the rate at home for the corresponding age group of both sexes. This rate for children of all ages is not, however, the true criterion as to child mortality, which is best expressed by the mortality of children under one year of age. Judged by this standard, we find the records of infant mortality in the European army of India, during the earlier years to have been lamentable. The accompanying table shows the statistical facts in respect of infant mortality for certain years, taken haphazard out of the fifty under review. It speaks for itself, and you can see how

great was the loss of infant life even down to 1900. The rates given are much in excess of the infant mortality prevailing, between 1881 and 1900, in towns at home with many women engaged in industrial work where the infant mortality rate in that period did not exceed 211 per thousand. During the last two years, the death-rate for children in the European army has shown a rise; at its present figures both for infants and children of all ages, the death-rate out here is twice that of the same groups in London, and approximates closely to that prevailing at home in towns where most of the women are engaged in industrial work. Even, if we make allowances for the circumstances of a tropical and alien country, it cannot be said to be satisfactory, nor to the credit of a community who have only their domestic duties to perform. The prevalence of enteric fever among the children has fallen in the last five years, but its degree is associated intimately with the corresponding prevalence among the mothers; the same is true of cholera, for the epidemic absence of which, among both women and children, during the last twenty years, we cannot be too thankful.

Taking all the facts as we find them, we may now inquire how far these results have been the outcome of fortuitous causes, or how far they are the result of reasoned action on our part. Truly, man does not gather grapes of thorns or figs of thistles; so in the case before us, the annual saving of 1347 lives, the saving of a yearly wastage of 3,316 men from the ranks of the European army is not a harvest gathered from the tree of apathy; neither is the saving, since 1877, annually of 657 lives, or the saving of a yearly wastage of 2450 men from the ranks of Indian troops a reward for tilling in the fields of indifference. For these results and all they mean, we must look to reasoned action on our part, as exemplified by what I call sanitary effort. Here, let me remark that in thinking of sanitation or sanitary effort, you must free your minds of the idea that such cognates or is, merely, a matter of conservancy; to think in that narrow way is just as correct as to think of drill as being merely the manual exercise. In each case, the one is but a detail or a part of the whole. Therefore, in speaking of sanitary effort, one includes all our activities making for betterment in both

the mental and physical welfare of communities; that is, it includes such diverse activities as the development of moral character, the development of schemes for drainage and the provision of water supplies, the construction of barracks and lines on rational principles, the organisation of the supply of sufficient and wholesome food, the efficient recognition, segregation and treatment of infectious diseases, and the application of direct methods of immunising communities against infection; all these activities have their basis on the teaching of science. Broadly speaking, sanitary effort divides itself into two groups of activities, the indirect and the direct. Among the former, one classes drainage and water projects, building schemes, commissariat organisation, and the general care and treatment of the sick; while, education, segregation of the infected, and special attempts to immunise a community against infectious disease are direct or individualistic in action.

If we analyse critically the degrees of improvement in the health returns of the Indian and European armies, we find that, while both show marked improvement, there has been a much greater progress in the European army, in spite of its location in an alien land. The constantly sick-rate in both armies is but one-half of what it was fifty years ago and, if anything, the degree of progress is slightly in favour of the Indian army. The death-rate in the Indian army is now but one-third of what it was in 1863; the same rate in the European army is now but one-fifth of what it was fifty years ago. The same proportions apply to the invaliding and wastage rates, showing in both cases a definite margin of improvement in favour of the European army, or as a third is to a fifth. In malaria incidence, the degree of improvement is in favour of the Indian army, or as an eighth to a fifth; but in respect of this, the admission rates in the Indian army may be an under-statement of actual prevalence, as more malaria cases are treated out of hospital than formerly was the practice. The incidence of tuberculosis of the lungs in the European army is now but one-tenth of what it was in 1863, while the corresponding incidence in the Indian army is practically the same as it was fifty years ago. Dysentery has dropped to one-fourth in

the Indian army and to one-ninth in the European. Non-malarial fevers, including enteric fever, and the respiratory diseases, including pneumonia, in the Indian army remain much as they were in 1863. The corresponding figures for the European army have not been put before you under exactly the same terms but, so far as they are represented respectively by enteric fever and pneumonia or comparable as between 1912 and 1863, they indicate a most definite improvement in the European army; the respiratory disease rate in that force being just one-sixth of what it was in 1863. Similarly, we have a reduction of hepatic disease in the European army to one-tenth of what it was; the corresponding figure for Indian troops being negligible. Therefore, in attempting to arrive at

	Existing rates as per- centage of 1863-4 rates.		Percentage improve- ment	
	Indian.	European.	Indian.	European.
Constantly sick rate,	43·2	46·0	56·8	54·0
Death-rate.	31·5	19·9	68·5	80·1
Invaliding rate.	27·4	19·4	72·6	80·6
Wastage rate.	29·3	19·4	70·7	80·6
Malaria rate.	12·0	18·7	88·0	81·3
Non-malaria fever rate.	100·0	10·0	<i>nil</i>	90·0
Dysentery rate.	26·0	10·6	74·0	89·4
Phthisis rate.	100·0	6·5	<i>nil</i>	90·5
Respiratory disease rate.	90·0	16·6	10·0	83·4
Hepatic disease rate.	100·0	10·0	<i>nil</i>	90·0

a comparative statement of the degrees of the improvement in two armies, in the fifty years, we can express their relative degrees in the form of the accompanying tabular statement, which gives for the ten headings the degree of improvement shown by each army, expressed as percentages. From the table it will be seen that, while the existing ratios in the European army are only about one-sixth of what they were fifty years ago, those of the Indian army are rather less than one-half of what they were in 1863. That is, the mean percentage of the existing rates in the Indian army is 56 of the 1863 rate, and the corresponding mean for the European army is 18·01 of the 1863 ratio. Similarly, the mean percentage improvement for the Indian army is 44 and as

much as 81.99 for the European army of India. In other words the fall in rates, during the fifty years, has been nearly twice as great in the European as compared with the Indian army. These statements, so far as they relate to the Indian army, are probably unduly favourable, as they are calculated on a comparison between the "all India" rates of 1912 and the Bengal rates of 1863. Could the comparison be made with the "all India" rates for 1863, the percentage of improvement in the Indian army would appear less favourable than it does.

The question suggests itself, why this difference? The answer is that, in the Indian army, the results recorded are mainly the outcome of general or indirect sanitary effort; while, in the European army, we have the combined effect of both the indirect and direct forms of sanitary effort. In the direct or individual aspect, sanitary effort can hardly be said to exist in the Indian army. The conditions of service are peculiar, the personnel is indifferently educated and imperfectly receptive of sanitary precepts and practices. There is, moreover, a reasoned reluctance to press these precepts and practices upon a people unripe for their enforcement. Therefore, we may say that, in the Indian army, such improvement as we do find is the reflection and outcome of general sanitary effort. Malaria has diminished, in response to large drainage projects in the vicinity of cantonments or lines and to systematic cinchonisation. Cholera is less now, consequent on improved water supplies but the same sanitary effort has affected dysentery prevalence but to a small extent among Indian troops, and the non-malarial fevers, such as enteric fever, not at all. In spite of improved hutting, the incidence of respiratory diseases, pneumonia and phthisis among Indian troops is relatively unchanged in the fifty years. These negative results are peculiarly suggestive of the absence, among sepoys, of an educative standard affecting or stimulative of individual sanitary effort and, in the matter of the respiratory diseases, some laxity on the part of the administration concerning strict adherence to orders as to overcrowding.

A further feature of the Indian army figures which merits attention is the fact that, the general fall in ratios, synonymous with improvement has been very slow from 1863 to 1912. This

is typical of the operation of indirect sanitary effort, and indicates the response of a particular community to influences, not special to itself but, common to itself and others. Had those influences been direct or individualistic, their effect would have been more rapid and manifest as accentuated steps forward.

If we turn to the figures for the European army, we find evidence of a total greater progress than that presented by the Indian army, through the same fifty years. This progress is attributable to the influence of both indirect and direct sanitary effort, and it is to this latter that we owe the remarkable change of the last ten years. Glance at the figures. In every column, you see that, down to the end of 1902, there was a more or less steady general betterment as in the case of the Indian army; but, it is not until the last decade that you find the betterment marked or striking. In the sanitary sense, down to 1902 the condition of the European army was much inferior to the Indian army. The European figures present, therefore, two phases; one of forty years characterised, like the Indian figures, by slow gradual improvement, and one of ten years marked by rapid and impressive improvement. The former period represents the action of general or indirect sanitary effort, and the latter that of direct, special or individualistic sanitary effort. In plain language, sanitation became a real and live activity, and a policy of indifferent drifting gave place to one of interest and action.

To what can we attribute the change? To that great blessing in disguise, the South African war, which, in more than one sphere of activity, did much to revolutionise army methods. Confining our review to the subject of sanitary effort, I ask you to realise that the South African war brought about a revolution. It broke down old and bad ideas, which regarded sanitary effort in the army to be but a medical question, and made sanitation a matter of discipline as affecting all branches and all ranks. It did more than that, by the force of public opinion which was scandalised by the ineptitudes and consequences of then existing ideas or system, it enabled the Royal Army Medical Corps to take its right place in the administrative councils of the military machine, where matters affecting the health or well-being of the European soldier are involved. The Corps itself was towed out of the back-

water into which adverse currents had caused it to drift, and there followed a series of reforms and administrative orders which made sanitary effort a living force in the European army, and not a mere name. What these were and are every soldier knows; the key note of them all was knowledge and education, and they meant the higher technical education of the medical officer and the education of every officer and man in matters which directly concerned their well-being; the results are before you in the figures for 1912. In contrast to them, look at the figures for the forty years, 1863-1902. Those forty years were the dark age of sanitary effort in the European army. Not because there were no men in the medical service who realised what was wrong, or knew on what lines of reform the remedy lay; but, simply and solely, because those men were unable to make their voices heard by men who would not hear, and because they could not escape from the vicious circle to which their activities were confined. In that black period of forty years, we find the maxima under every item or heading discussed. There is not a redeeming feature and, perhaps, the least creditable years were those from 1883 to 1902; I say least creditable because in that period the light of modern knowledge was burning brightly outside the army, but its rays were not allowed to fall into the dark places of the military machine. One need not dwell further on the why and wherefore; it is sufficient that the screen was torn aside after the South African war, and a brighter era inaugurated.

Now, in that brighter era which has existed since 1902, what have we to show? A constantly sick rate fallen from 74 to 29, a death-rate down from 15 to less than 5, an invaliding rate of 6 instead of 36, a total wastage rate down from 51 to 11, and every disease ratio reduced in proportion. Among them all, stands out an enteric fever rate of 20 reduced to 2, and a mortality rate, therefrom, fallen from 5.6 to 0.4; or, in actual cases, an annual toll of 1313 attacks with 354 deaths reduced to 182 cases with 28 deaths. How and why this remarkable change? simply, by the application of direct sanitary effort, based on scientific teaching and methods. There is no mystery about it and, now the task is accomplished, one can but wonder that it took so long to materialise. The first step was the making of sanitary effort a matter

of discipline; the second was the education of the officer and man as to what was the nature and aim of sanitary effort, and the futility of any such efforts unless a serious part of the daily acts of all and not merely of the few. To the ground, thus prepared, then followed the application of methods indicated by advanced medical opinion. The first of these was inoculation against enteric fever. A procedure which sprang from the Army Medical School at Netley, fostered and developed by the Royal Army Medical Corps in the face of every difficulty, now bears fruit undreamt of in 1902 by even its most ardent advocates, and is imitated and practised in both the French and United States armies. In the latter, it is compulsory.

On an organised basis, the inoculation of European troops against enteric fever dates from 1906. In that year we had some 5 per cent inoculated, in 1907 the numbers had risen to 15 per cent, in 1908 to 30 per cent., in 1909 to 50 per cent., in 1910 to 70 per cent. in 1911 to 85 per cent. and in 1912 to 90 per cent. From the census return taken on December 31st 1912, we find the rank and file population to consist of 62005 inoculated, 5174 not inoculated, and 1,653 men who had had enteric fever at some time or other. Inoculation is entirely a voluntary procedure in the army, and the fact that over ninety per cent of the men are so protected is eloquent testimony to the intelligent attitude taken by the men towards the procedure, and to the tact and zeal with which its merits have been represented to the men by officers of the Royal Army Medical Corps. The influence of inoculation on enteric fever incidence and mortality is shown by the following figures for 1912. Among the inoculated we had 141 cases and twelve deaths, equivalent to an admission rate of 2.17 per thousand, death-rate of 0.43 per thousand and a case mortality rate of 8.5 per cent. Among the non-inoculated there were 40 cases with sixteen deaths, equivalent to an admission rate of 6.48 per mille, a death-rate of 2.7 per mille, and a case mortality rate of 39 per cent. These facts indicate clearly the influence of inoculation in lowering the incidence of enteric fever, and very emphatically lowering the case mortality.

While we, rightly, attach much importance to the value and influence of inoculation in reducing both incidence and mortality from enteric fever, we owe probably much of our recent successful control of this disease and also of the cognate infection known as paratyphoid fever to the two enteric depots at Naini Tal and Wellington. These depots were formed in 1908-9, and to them are sent all cases convalescent from enteric fever and any other form of pyrexia suggestive of being of an infectious nature. At the depots, which are provided with laboratories and a highly technically trained staff, these convalescent cases are submitted to repeated technical examinations and detained until they are free from potential infection. Endowed with these functions, the depots have received 1562 enteric convalescents and over a thousand others convalescent from other suspicious types of fever. Out of the 1562 enteric convalescents, fifty four carriers of infection have been detected and of these carriers no less than eighteen were of the chronic type, that is unamenable to any known form of treatment. These facts show the presence among this class of convalescent of practically four per cent of persons who are potentially infective for varying periods of time. In that these unconscious carriers of infection are capable of and actually do infect others with whom they associate, it is manifest that their early detection and detention under safe conditions is a matter of high sanitary policy. Had the old system prevailed, and these depots not existed, then these 54 carriers of enteric infection would have gone back to barracks at once on discharge from hospital. The aftermath of fresh cases from those 54 men, in the course of a few months, would have amounted to many hundreds of cases and consequent deaths. From this point of view, the maintenance of the enteric depots and the elaborate technique there carried out for the detection of potentially infective individuals is a manifestation of sanitary effort of the first importance. Great and dominant as have been the influence of both inoculation and the depots in reducing the prevalence of enteric fever among European troops, they have been supplemented by other aspects of sanitary effort; among the more important of these are, the greater interest taken by officers and men in sanitary detail, the higher standard of clean-

liness in barracks and lines, the greater security as to the hygienic quality of milk and butter, issued to the men following the development of military dairies, and the adoption of sound conservancy methods as evidenced by a wet system of latrine management and incineration, both of which are advances on previous practices. It is curious to be able to say that, as far back as 1885, I advocated both measures only to be laughed at as a visionary. Only one man ever grasped the true meaning of my ideas in those days, and that man was Colonel G. Young, afterwards D. Q. M. G. at Army Headquarters. We have lived to see our views take shape only some twenty five years later.

The reverse side of the picture as to the reduction of enteric fever among European troops, is presented by the undue prevalence of the disease among both officers and women, who present an incidence rate from two to three times as great as prevails among the men. In neither of these classes is inoculation existent to the extent found among the men, and to neither of these classes is the system of the enteric depots applied. If enteric prevalence is ever to be reduced to the same level of incidence in these two classes as holds good for the rank and file, inoculation must be pressed and both must be admitted to the system of segregation on convalescence in the depots. That they are not admitted to the enteric depots is due to the refusal of the Administration to accept the strongest recommendations from the Medical Branch that they should be so admitted.

There remains, now, little more to be said except it be to anticipate the future. The present is undoubtedly most satisfactory as to the effect of sanitary effort among European troops among whom, if we except certain aspects of the health of officers and the women, sanitary effort has not been in vain. Whether the advantage gained is to be held depends entirely upon how much the lessons of the past are remembered. There are not wanting signs of a reaction; and, because men do not see four and five funerals a week in their garrisons as used to be the average, there is a tendency to think that a slackening of principles and practices will mean no penalty to be paid. On that point, I have no hesitation in saying what I think. Though the effects of his presence are little evident, yet the

enemy of disease and death is still with us, and any slackening of sanitary effort cannot fail to bring us back to the old conditions. This is an age of scientific knowledge and, as interpreters of scientific advance where those advances have a bearing on health problems, the dicta of the Medical Corps should ever have dominance. To sacrifice them ever on the altar of expediency or finance can lead only to disaster ultimately. New conditions and new diseases are coming into view. To cope with them, the medical officers of the army need to be afforded facilities and means of technical research, be it for prevention or cure. Each year shows that the dispensary is giving way to the laboratory, and if the army is going to keep its own house in order it must, in these details, be abreast of the times. Therefore, if sanitary effort is to be maintained at its present high level in the European army, it can be assured only of that place by no slackening of existing practices, by the extended application of scientific methods, and by giving the fullest scope and encouragement for the practical interpretation of the teachings of science by the officers of the Medical Corps, who, from the very nature of things, are the legitimate exponents of the advance of science in all things that pertain to disease.

It may be argued, and is argued by some, that there comes a point at which the measures advocated by the Medical Corps, for the prevention of sickness, wastage and death, are not economically sound. The ethics of that view appear indefensible and merit no argument but, as a matter of £. s. d., it may be interesting to remind you that a Commission, appointed by the Secretary of State for War in 1900, made an attempt to estimate the monetary loss to the State from disease in the army during the South African War. On the basis of the cheapest trained soldier being worth not less than £40, the Commission considered that each one soldier who dies and has to be replaced costs the State £87; each one attacked by disease and who rejoins his regiment within four months involves a loss of £57; and each soldier attacked, invalided home and replaced by a fit substitute costs the State no less than £108. Now, assuming that a soldier puts in one year in this country, then, after paying initial and recurring maintenance charges, each European private cannot have cost or

be worth to the Indian Government less than £100. As nine-tenths of the men who die in or are invalided out of this country have completed one year's service in India, the monetary value of the wastage from the European army, in 1898, was not less £390,700 or fifty eight lakhs of rupees. Ten years ago, the wastage had a money value of forty five lakhs on the same basis of calculation. In 1912, that same wastage of 802 men represented but £80,200 or roughly twelve lakhs. Setting aside all question of altruism, it seems to me that the reduction of a money loss to the State from sickness and death, in ten years, from forty five to twelve lakhs of rupees is ample, if sordid, justification for sanitary effort in the European army only. I make no attempt to express the monetary value of the total gain by sanitary effort in the two armies, during the past fifty years.

Of the results as we find them to exist now in the purely Indian army, it may be said they are good. Personally, I think they should be better and that a death-rate of 4·6 in an indigenous army, living in its cantonments, is too high; it should not be over 2·5 in peace times, but one can easily be too critical in these matters. Enteric fever, dysentery phthisis and pneumonia all exist to a greater extent than they should exist among Indian troops. Good as are the present figures, when compared with the past, still one cannot disguise the fact that, whatever progress has been made, the results have taken fifty years or nearly two generations to attain. Moreover, the progress made has been entirely from indirect causes and in spite of the Indian soldier himself. In the true and active sense sanitary effort cannot be said to exist among Indian troops, and it is difficult to see how it can be made to evolve except by education working through time. "Slow but sure" is a good maxim and, perhaps, nowhere more applicable than to the Indian soldier; but, even so we must see that it is not he, but ourselves, who set the pace. The sepoy is but a typical representative of the community from which he is recruited, and he brings with him into his barracks and lines the ideas and habits of his village and home. Except at grave risk, any forcible dislocation of these ingrained ideas and habits, during the period of military

service, are not to be contemplated. Therefore, we must take the Indian soldier as we find him, trusting to indirect sanitary measures to modify and reduce to a minimum the evil results associated with prejudices and practices. Experience has shown that, in spite of the advantages which a disciplined and corporate life give, the term of military service makes no impression on and teaches apparently no lesson to the sepoy, as regards his sanitary ideals, and he returns to his village quite content to accept the conditions of domestic life and adhere to the ways of his forefathers in which he was brought up. In this matter, therefore the work of the military administration is dependent on the efforts of the civil administration to level up the sanitary standard of ideas and practices of the masses from whom we are dependent for our recruits. Until that sanitary education is secured among the classes from which the army is recruited, and they themselves are imbued with and evince a desire for a higher hygienic standard, further progress in respect of sanitary effort, among Indian troops, is likely to be small.

To the official civilian, who may have listened to what I have had to say or, perhaps, may read these pages, one would affirm that our experiences in the army of India offer definite encouragement to those attempting to develop sanitary effort among the masses of this country. One has shown how, in spite of advantages associated with discipline and a corporate life, progress, though real, has been very slow among Indian troops. The sepoy is typical of the community from which he enlists to be a soldier; therefore, if our difficulties have been great to raise his sanitary condition, yours with his undisciplined brother will be far greater. Your true encouragement lies in the results we have obtained among European troops in India. Brilliant as those result are, you must not lose sight of the fact that for forty years, out of the last half century, we made little progress; in truth, at one time, we actually retrogressed. Those forty years of failure to advance synchronise with a period of sanitary ignorance and apathy among all ranks of the European army, and, it was not until the wave or movement of health culture spread over England itself and made itself felt among the masses at home from which we draw our

European recruits, that the measures which commended themselves to and were advocated by the enlightened had any chance of success.. You, in respect of the masses of India, are in a like case. With you, in your efforts, as with us in ours, the only hope of success lies in education and building up of a higher standard of hygienic conceptions among the people. This is familiar to you and all interested in the question, but pardon me for reiterating, that the prime need of India is the diffusion of simple elementary knowledge among the masses; more especially knowledge concerning man himself and that disease is in the majority of cases, associated with conditions remediable by man's own efforts. Until that knowledge is general and carried into the home it seems to me to be futile to elaborate highly technical forms of attack upon disease among Indians. They are not, intellectually, fitted to profit by such measures and their impressment on the people against their wishes will probably do more harm than good. In this diffusion of knowledge and efforts to reach the home, thereby influencing the next generation at its most susceptible time, I venture to suggest that your best agent will be woman and that your wiser policy will be to flood the country with women doctors or other females capable of spreading simple but practical knowledge as to domestic hygiene, rather than spending vast sums of money on the erection of elaborate hospitals and other institutions which touch and benefit but the few. If you, further, support these sanitary missionaries with travelling dispensaries, the final results cannot fail to be other than good. We must not overlook the fact that much of existing mal-sanitation among the Indian masses is intimately associated with their economic condition, therefore, too much must not be expected unless education efforts are supplemented by provincial or municipal schemes for betterment of congested areas and villages. Another need in India, towards the same ends, is the stimulation of a greater interest in these matters among the wealthier classes who, by example and philanthropic expenditure, could do much for their own country as was done by the corresponding class in our own. In India, sanitary effort to be a live force, must begin from the top and not from the bottom of the social scale; we had to do that in our own land, and the same activity is called for in this.

It has been shown how, even in the European army, until education paved the way our progress was little for forty years. You will need, probably, twice forty years to make any great headway among the masses of India but, in proportion as our reward in the last ten years has been worth the struggle, so will yours be. Any measure of success on your part, among the many, cannot fail to be an aid to us among the relatively few. Conversely, any success as to sanitary effort in the Indian army should, through the agency of discharged sepoy, operate as a leaven among the masses. In this matter, therefore, the work of the soldier and the civilian are complementary.

Surgeon-General Sloggett:—"Does any lady or gentleman wish to make any remarks, or ask Colonel Firth any questions?"

Capt. Crofton said:—"Your Excellency, ladies and gentlemen, as a regimental officer who has just had a hot weather in the plains, I should like to say a few words on the subject of what the lecturer said about married families. In the station I am in there is a special hospital for the married families, and as you probably all know, if any woman gets sick or any of the children are sick, she and the whole of her family have to go to hospital. And there, no matter how ill she is, she is not isolated unless it is an infectious case. The nursing sisters in this country have nothing to do with the married people; there is only one matron, who is often an Eurasian, to run the whole place, and I think, looking at it from the point of view of the regimental officer who has to look after the families of his men as well as the men themselves, that that has a good deal to say to the extraordinarily high rate of sickness and mortality amongst the married people."

Surgeon-General Sloggett:—"Your Excellency, ladies and gentlemen, you have heard what has just been said to-day. I cordially agree, but it is purely and simply a question of money. For many years we have been trying to better the lot of the women and children and improve their hospitals, and if we can get the money out of the Indian Government we shall be able to do

so, but I am afraid, until those days come, we shall have to rely on voluntary aid. The whole question of the nursing in the female hospitals of the British Army (of course I am speaking of the British Army now) is a subject which is under discussion and which is in the melting pot, and I hope, before very long, we shall get some good results, but it is purely and simply a question of finance.

"Now if nobody else has anything to say, I propose a vote of thanks to Colonel Firth for his most admirable and scientific lecture."

The Middle Eastern Question.

By A. B.

In spite of determined attempts to ignore its existence the Persian question remains, as Lord Curzon pointed out more than 20 years ago, the crucial problem in the Foreign affairs of India. The fact is our late Viceroy practically occupied Seistan for 3 years, and though he used every endeavour to push our Indian Railway system to Robat, he only succeeded in extending it to Nushki.

Lord Curzon certainly some 18 months ago appeared to be weakening in his preference for a forward policy, but there are signs that he is returning to his previous position. Circumstances have changed since he first advanced the glacis theory, which, (assuming the phrase merely to allude to a buffer state,) in the light of present events must be recognised as only applicable under many qualifications.

But the glacis idea is really little more than a happy turn of phrase. A glacis is a term of fortification implying an open plain, in which obstacles may be disposed to delay an enemy under exposure to an overwhelming fire from a defending force. As applied to the Western Frontier of India the idea of a glacis is therefore meaningless, for there are no obstacles to speak of, and the "plain" is certainly not under the fire of the defenders.

In support of this "glacis" idea the Military correspondent of the Morning Post cited the "excellent example furnished by the land frontier of Egypt North of the Red Sea, where the almost waterless Isthmus of Suez has ever offered a tremendous obstacle to military operations between Asia and Africa." Possibly it has done so; but it did not prevent, during a period of six successive centuries, the invasion of Egypt from the East by the Persians under Chosroes, the Saracens under Amrou, by the Seljuks, by the Turks, and by the Mongols under Holagou, who however was successfully resisted by the Mamelukes. In recent times Mehemet Ali successfully invaded Syria from the Egyptian side.

One can conceive a thickly populated country forming an efficient obstacle, but an unoccupied glacis is certain to be filled up from either side, its deserts can readily be traversed by railways, and it is therefore no protection whatever.

The underlying fallacy is that under modern conditions the old theory of the value of a desert frontier is still applicable. This fallacy is responsible for much of our present policy in Persia, which, with the regrettable exception of the C. I. H. episode, can best be described as one of masterly inactivity,

Perhaps this phrase was invented by some politician to suggest a touch of cunning in a policy of ineptitude, or it may merely have been certain the sarcasm of an opposition critic. Whatever its origin, it has acquired a vogue, but it is clear that a policy of inactivity can only be masterly at a moment when some previous move has forced an opponent into a situation from which he can only extricate himself by some action contrary to his own interests. In the matter of ourselves and Russia in Persia, a policy of inactivity has no such effect, but leaves the Russians a free hand to act as they may please.

North of Quetta, and right round to Burma, India is surrounded on its land frontier by impassable mountains. It is true that the invasion of India is practicable over these mountains, but such invasion could only be in the nature of an unsupported raid, which, though it might be temporarily successful, could never be maintained against an army based on protected sea routes.

But the side of Persia remains open right up to our railheads. Here no obstacles are presented either by hostile nations, or by impassable country. There is a clear road for the Russians through Persia to Seistan and the ocean, defended only by the efforts of diplomacy. Based on a position on the open sea Russia would be able to meet us on equal terms, and could support raiding invasions from the North-West and from Seistan by a concerted movement from the coast. It is for this reason that the possession of India may be decided eventually in Persia.

Affairs are now moving very fast towards a crisis, but so far a final choice has not been made among the various solutions of the Middle Eastern Question.

There is first the "glacis" position, which, as I have already attempted to show, is useless as a protection. It may perhaps be advisable to examine some other aspects of this theory, which appears to imply that the British Government will always remain in India in its present form. Now events of the last 20 years have clearly shown, that the policy of succeeding Viceroys of India, during that period, has invariably been one of encouragement to the aspirations of natives of the country to take part in its government. Municipalities and councils are now everywhere exercising more and more influence over the minor details of administration. On the other hand we have just heard one of the most distinguished Lieutenant Governors of recent years declare, that we could never leave India, for it would immediately revert to a state of anarchy. This hardly seems consistent with the trend of recent policy, which clearly indicates a wish to develop national forms of Government, unless we suppose that he merely implied that to hand over the government of the country to a dynasty of pleaders would be to see it immediately revert to a mediæval barbarism. From that opinion, no doubt, few will differ. I believe I am right in saying, that less than four generations ago, it was still the custom for certain native princes to put out the eyes of their enemies, or to flay their prisoners alive for an afternoon's amusement.

But though the policy of Government appears to anticipate that eventually the mass of the people will be raised above its present undeveloped stage of existence, and take some part in representative institutions in aid of the supreme government, still there will be a majority of Anglo-Indian officialdom, who will always decline to admit the possibility of any such development, or the practicability of any form of government of oriental races, other than a despotism. It is at least improbable that Anglo-Indian officials accustomed to the despotic mode of thought will ever be able to recognise any such development, even if it were to occur.

At the same time it must be admitted that with the increase of prosperity great progress is already being made in the cultivation of an intelligent public, and, as capital becomes more widely diffused, a still larger proportion of the public obtain a material interest in the country. Capital is being forced into other uses than usury and its owners are being brought to ideas of prudence and foresight and so of good government.

It is therefore possible that although the general mass of the population may never raise themselves above their present stage of development, at least in a period of which we can reasonably take cognizance, there may arise a wealthy industrial population capable of assisting in the government of the country. Although this may scarcely coincide with our ideas of representative government, it must be remembered that those ideas were derived from ancient Greek democracies in which the majority of the population were slaves of no political account.

It is at least incontrovertible that a direct British Government of India can never be national, but must always remain in the nature of a military despotism, and for that reason, in the event of attack from outside, our strategical position would always be weak, with a doubtfully loyal population behind us.

It is therefore recognised that it is to our advantage to make every effort to foster national ideas in India; and by teaching in municipalities and councils the principles of good government we may gradually devolve some portion of the administrative details on that section of the population, which has material interest in the progress and good government of the country. The anarchy of previous eras has been due to the fact that the ruling power was centralised in a military unproductive caste, whose only idea of government was loot and rapine, and whose methods reduced all the lower useful castes to a condition in which they lost the will and power to protect themselves. If then we now succeed in developing some national feeling in those castes and are able to convert the population of India from subjects to friends and allies, whose interests will be bound up with our own and eminently opposed to those of Russia, it is clear that the strategical situation will be relieved. Then the Supreme Government relieved of anxiety and the details of

administration, while at the same time in a position to retain a hold on the commerce, markets, and raw materials of India, which have been the chief source of British prosperity since the 17th Century, may be able to look round and see where it is necessary to protect that supremacy against outside enemies.

At once its attention is called to the weakness of India's defences on the West, due to the want of physical obstacles. This may be overcome either by developing a strong intervening nation, or by occupying the intervening country.

There are objections made to our occupying Persia, that we have neither the wealth nor the numerical strength necessary to hold both Persia and India.

This is perfectly true; but the difficulty will gradually disappear if our policy of developing Indian nationality is successful. We may indeed believe that it has already shown some measure of success. The supreme government was able to abandon Madras in the eighteenth century, and the Presidency is now almost self governing. Bengal has in turn been left behind, a move foreshadowed by the adoption of Simla as summer headquarters 60 years ago. Even Delhi is not necessarily its permanent resting place. The cost of our occupation of Persia would not at first be unbearable, and, as it develops, we should be able to reduce our liabilities in India, and throw them on local administrations.

As an alternative, it has been suggested, that we should encourage Russia to expose a frontier on the Persian Gulf, where it would be accessible to attack at any moment. It is only necessary to point to the Crimean War, and the futile efforts of the Japanese in the far East, to understand how impossible it is to do any real harm to Russia by frontier fighting.

I think therefore it is clear that not only are we forced to adopt the plan of occupying our sphere in Persia but also that we can do so with confidence. For the completion of our design we must renationalise the Persian people, just as we have been striving to do in India for the last 50 years. For that purpose it is essential to open up the internal communications of the country by roads and railways, and the external communications with existing civilisations. This is already being carried out by Russia in the North and, unless we wish

Russian civilisation to overflow the country by a main artery from Europe, we must obviously provide a similar artery, through which our own ideas of civilisation may flow over at least our own sphere of activity. At the same time such an artery will be necessary to support our military position in the country. The junction of our artery with that from the North will naturally follow, advantageously to Indian trade relations with Europe, and if we are opening a door for the vices of the East to corrupt once again the civilisation of Europe, we are at any rate at the same time helping the people of India to advance more quickly along the road to civilisation, which will bring them to the point where they can be entrusted with the management of their own affairs.

This main artery from India across the centre of Persia into Europe is therefore the essential feature of a first line of communications with Persia; as the country develops, quicker outlets to the sea for its trade will be required, and Seistan, Bunder Abbas, and Shiraz will enjoy the benefits of connection with the system of railways.

About those who have favoured this trans-Persian railway, Many hard words have been said and some extraordinary alternative schemes have been suggested. The most astounding is the so called "all red" route from Busra to Egypt. Nearly all are valueless as they are not through routes but involve sea voyages of varying distances.

We were told that this Trans-Persian railway would be an excellent thing for Karachi landlords, but that their gasconades would weigh little against the loss of our virgin glacies; that such a "wild cat" scheme would never receive financial support; and that, even if the line were made, no one but an idiot would leave the floating palaces of the P. & O., to venture a hazardous journey through the "inferno" of Mekran and the "arctic" rigours of the Persian plateau. Dr. Johnson has been credited with defining a ship as "a prison with a chance of being drowned." Probably in his days prisons were much overcrowded, but the modern prison is to be preferred to a crowded P. & O. steamer in the Red Sea. Contrast the civility of an

obliging guard with the rigid discipline of a typical liner. As to the "inferno" of Mekran, anyone, who can survive a railway journey across the plains of India in May, will thoroughly appreciate twelve hours of the sea breezes of the Mekran Coast. Many an invalided officer, will be reinvigorated by his journey across the Persian plateau which, I can affirm, has the finest climate in the world. He will probably stop at the big railway hotel at Ispahan for a few days to enjoy the wines and fruits of that ancient capital.

This railway will reduce the time to get a reply to a letter from England by one half, and it will obviate a sea voyage of 6,000 miles for an expenditure little less than men are seriously proposing to spend in eliminating a 22 mile passage of the Straits of Dover, mainly for the benefit of the tourist traffic.

There is not the least doubt that 75 per cent of the existing Indo European passenger traffic will leave the sea as soon as a good rail service is provided, and that an equal amount of entirely new passenger traffic will be developed, mainly among the middle class public. In spite of the horrors of travelling by sea as a deck passenger, exposed to the elements, and the caprices of "Captain Kettles," the inhabitants of the East are indefatigable travellers, and even the mind Hindu will not be too timid to step into a railway train. No one can tell what rapid advance the civilisation of India may take when attached to the West by a continuous line of rail.

It has also been objected that it will never be politic to send mails overland instead of by P. and O. I have never been able to understand why this objection to running through Germany and Russia instead of through Italy and France has been raised, unless by interested persons. In fact I would go so far as to urge the British Government to encourage the construction of the Trans-Persian Railway, merely to obtain the benefit of the increased social intercourse with those countries through which a tri-weekly Orient Express will run, and which will have a humanizing influence on international relations of incalculable value.

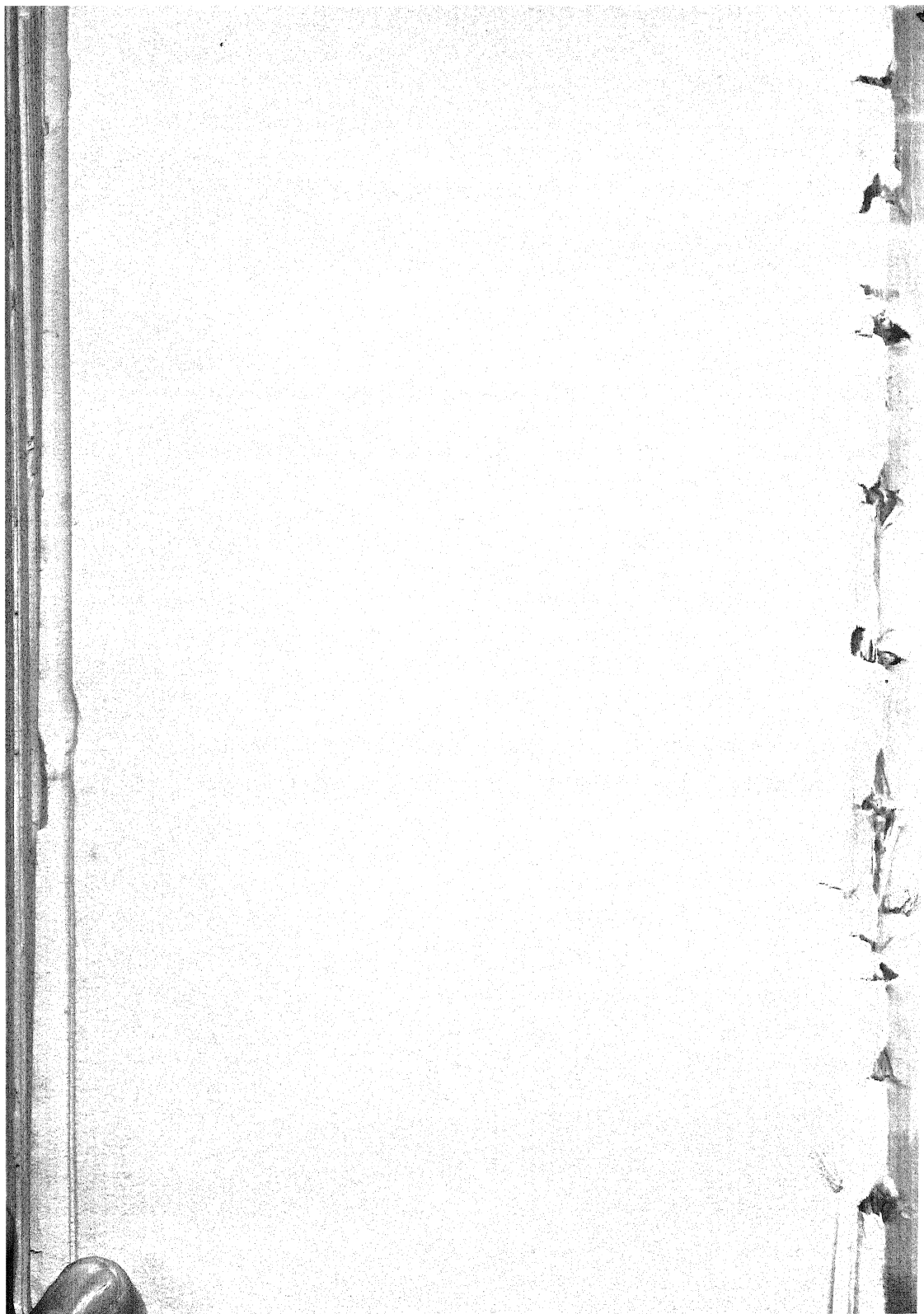
As to the financiers who have received such commiseration and solemn warnings, surely they can take care of themselves. But their case is scarcely desperate; they are unlikely to rely solely on traffic for their profits, but even if they do, surely it is better business to put £20,000,000 into 2,000 miles of line across Persia rather than into a tube under the Sea between Dover and Gris Nez. The line is really under 2,000 miles in length, and the North Western Railway of India, with gross receipts of Rs. 340 a mile a week, has up to date barely cost £10,000 a mile. The Uganda railway, a narrow gauge, certainly cost £9,000 a mile, but it had a length of less than 600 miles, and was constructed through a remote and savage wilderness under conditions of climate, supply and transport, such as were certain to increase the cost enormously. Railways in Persia would be built under no great difficulties of any kind. Railway financiers still exist who can realise the tremendous potentialities of this scheme, and who know all the moves of the game of railway promotion.

But the disagreeable fact must not be forgotten, that Persia shares with all the countries between the Indus and the Euphrates the curse of the nomad tribes, of Arab, Turkoman, Kurd, or Baluch stock. The nomad is a parasite of the goat. It drives the goat about the country and helps it to increase and multiply far beyond what the country will stand, while it lives on the goat's milk. The camel is a parasite of the nomad, which it helps to move from camp to camp, while stripping off whatever vegetation remains beyond the extreme reach of a goat on its hindlegs. After the camel and goat have been over a country a few times there is left nothing but some excessively thorny and peculiarly offensive smelling or poisonous shrubs and the date palm. Man lives on the date fruit, the only subsistence beyond the camel's reach, and on the abundant supply of fish on the Persian Coast. If any work is done, it is the work of women or of slaves. But nothing is done to replace the waste that is caused, and no country under nomad influence can escape becoming a desert.

There remains an industrious Persian agricultural stock, which might be perhaps more correctly linked with Northern fair

skinned races, There are, too, many semi-nomads, who will quickly settle down under security, and swell the numbers of the producing population, which with the aid of capital will quickly reclaim large areas of fertile country, depopulated by centuries of misrule. As to the real nomad, the railway promoters only hope may be that his nomadic propensities will be satisfied by railway travel, which he will be able to afford from the profits of the sale of his wool and ghi, which cheap railway carriage will make valuable. Nor must we forget the carpet industry, and it must not be imagined that a nomad race, whose women are capable of maintaining such a beautiful indigenous art, has anything in common with the unsophisticated masses of Hindustan.

Whatever be the event, there is little doubt, that we are now at a crisis in the history of our connexion with India. By seizing our opportunity and advancing to the invigorating plateaux of Persia, we may be preparing to escape the fate which has hitherto invariably overtaken the conquerors of India.



***Lecture on the North West Frontier Province
and the Pathan Borderland given at
Peshawar in March 1911.***

BY MAJOR E. W. COSTELLO, V. C. 22ND PUNJABIS.

I. History.

Very few authentic records of frontier history exist, although something is known of the Peshawar Valley in ancient times. Alexander passed through Peshawar City in 326 B. C., Chanda Gupta the Buddhist captured it in 303 B. C. He was succeeded by his son Asoka who extended the Buddhist faith as far as Kabul and Kashmir. Asoka has left traces to the present day, on the "rock edicts", one of which can still be seen at Shahbazgarhi 7 miles from Mardan.

The district remained under Greek rule until 165 B. C. when Menander and the Bactrians gained possession of it, to be overthrown in their turn by Scythians in 80 B. C.

At this period Buddhism was the common religion between Kabul and the Punjab. The Buddhists were of the same race as the Hindus, and were in an advanced state of civilization, living in well built villages which were usually grouped round a central monastery, to which the best site was invariably allotted.

The ruins of the old villages at Takhtabhai, Kashmir Smats, Shahbazgarhi, Jamalgarhi and at numerous other places in the district show that the builders were better workmen than their successors of to-day.

In the period before Christ, the greater part of the Peshawar Valley was a swamp infested by tiger, rhino, and other wild animals. The remains of the swamp are to be seen in the snipe jheels of to-day; these in their turn are rapidly disappearing under the reclaiming hand of the grass farm officer and in a few years time, tales of 17 couple of snipe shot on the artillery jheel will rank with those of Babar's tigers at Jamrud.

Buddhism appears to have flourished up to the 5th century, as we know from the evidence of one Fahian, a Chinaman, who visited Peshawar about this period; but another Chinaman Houn Tsan visiting the district in the 7th century spoke of the people as relapsing into Brahminism.

At the end of the 8th century migratory Pathans from Khorasan settled in the hills about Peshawar, and in 978 A.D. formed an alliance with Sabaktagin who had pushed on from Kabul. These Pathans embraced Mahomedanism in Mahmud-i-Ghuznavi's time, 1017-1023 A.D. and contributed a large contingent to the army with which he conquered India.

It was now that all the Buddhist and Hindu villages were destroyed and the country turned into a waste, the inhabitants fleeing to the mountains, whence they have gradually been pushed back into Kafirstan.

Peshawar remained a province of Ghazni for over a century, the kingdom extending as far as Lahore.

The invasions of Genghiz Khan and Timur Lang, which took place in the 13th and 14th century, completed the havoc caused by Mahmud.

At the end of the 15th century the Yusufzais poured down from Kabul and attacked the Swat Valley. Their tactics in forcing the hill barrier are interesting. They moved to Shakkote and made a great pretence of attacking the Mora Pass. The Swatis collected to oppose them, but during the night the Yusufzais, leaving their women in camp to deceive the enemy, marched across and captured the unoccupied Malakand Pass. We acted in much the same manner in 1895 when we threatened the Shakkote Mora Pass.

The ejected Swatis migrated to Hazara where they still exist in Kagan Agror and Manshera, while the Pathans divided up the country into tribal shares which continue to the present day.

In 1505 Babar invaded the Peshawar Valley by the Khaibar route and undertook numerous expeditions against the hillmen. He employed strong light columns and tried to effect a surprise, but made little headway until 1519 when he crossed the Kunar

mountains, captured a Bajaori fort, and after slaughtering all the defenders erected a pyramid of 3 000 skulls at Tora Tigga. The massacre disheartened the other tribes who made prompt submission.

Between Babar's reign and the invasion of Nadir Shah in 1738, history records little of interest.

Nadir Shah advanced on Peshawar by the Bazaar Valley and after turning the position of the Afridis who were holding the Khaibar, built himself a fort in Bazaar. He does not however appear to have succeeded in bringing the valley under complete control.

Ahmad Shah seems to have been more successful in 1747. He established the Duranni dynasty at Kandahar and dominated the Peshawat Valley.

The Sikh invasions followed, and the country was almost completely under Sikh rule until 1849 when it was surrendered to the British Government. For a short period, in 1825, Saiyad Ahmad of Bareilly established his sway. He fought Sikhs and Durannis in turn but the people soon tired of his exacting rule and overthrew him. His followers exist to-day as the Hindustani fanatics of Buner.

Space does not permit of a detailed record of our rule, but the names of George Lawrence, Lumsden, and Nicholson need only be mentioned to remind us of how the people of the frontier remained loyal during the Mutiny.

The North West Frontier Province was separated from the Punjab in 1901, with Sir Harold Deane as the first Chief Commissioner. For little more than 60 years our rule has been maintained, during which time we have penetrated the hills and obtained a real influence across the border; good roads, canals and railways have been built and the prosperity of the people has been greatly improved.

II Geography.

The main roads of the province are :—

- (1) The Hasan Abdal, Abbottabad road to Kashmir, with a mule road branching off to the Kagan and Gilgit.

- (2) The Chitral road, a good cart road to Chakdara, a mule road beyond, to Badakshan, Wakhan and Chinese Turkestan.
- (3) The Peshawar, Shabkadar cart road, with mule tracks to Dakka and Nawagai.
- (4) The Khaiber. From Peshawar into Afghanistan.
- (5) The Khushalgarh-Kurram road, with camel roads to Ghazni and Kabul.
- (6) The Bannu-Tochi cart road to Datta Khel with camel roads to Ghazni and Kabul.
- (7) The Dera-Ismail-Khan, Kajuri road (The Gomal) to Mukur.

These are connected laterally by the Dera-Ismail-Khan, Bannu-Kohat, Peshawar, and Mardan roads.

The following distances are of interest :—

Landi Kotal to Kabul 155 miles.

Parachinar to Kabul 90 "

Datta Khel to Ghazni 100 "

Kajuri to Mukur 170 "

Besides these we have the railway to Dargai, Jamrud, Thull, and Bannu.

The Indus is bridged at Attock and Khushalgarh; boat bridges exist in winter only, at Darya Khan and Ghazni Ghat.

Rivers South of the Kabul may be considered fordable except after heavy rain. To the north, the Kabul, the Swat below Chakdarra and the Panjkora in summer are unfordable barriers which isolate the countries they contain,

The Kabul is bridged by the Nowshera Railway bridge.

There are also suspension bridges over the Panjkora at Chuttiatan and Sado, and across the Swat at Chakdara,

Boat bridges across the Kabul exist at Shah Alam, Nahakki, Charsadda, Abazai and Nowshera. They can generally be relied on for the passage of field guns but are occasionally swept away when the annual floods are severe.

Most invaders of India have used the Peshawar Valley routes, though some have come down the Gomal.

Alexander's army marched in two bodies ; one over the Kunar Mountain via Bajaor, Swat, and Buner to turn the Valley; the second from the Khaiber on Attock.

Babar came first by the Bazaar and later across the Kunar by the Hindu Raj Pass.

Nowshera seems to have been the cockpit of the Valley and has been the scene of many battles between the early settlers Afghans, and Sikhs. The dak bungalow at Nowshera Tehseel is built on the site of one of the hardest fought in this part of the world.

III. Administration.

The province is bounded on the east side by the Hazara District and the River Indus, and on the west by independent territory, the Durand line marking the point where our influence ceases and that of Afghanistan begins.

There are five districts, each under a Deputy Commissioner, *viz.*, Hazara, Peshawar, Kohat, Bannu and Dera Ismail Khan.

Each district has its garrison of regular troops and a force of Border Military Police, which latter is now in a state of re-organisation. In addition to the above, since 1910 villages along the border have been armed with Martini rifles, local maliks being held responsible that weapons do not disappear. Four rounds per man are supplied for annual practice and it is surprising to see how well some of the men shoot.

These armed villages greatly strengthen the hands of the Border Military Police, as raiders when attacking one village are bound to expose their rear and flank to another, thus hazarding their retreat.

Some of the villagers are ready helpers, but others go so far as to complain that the only things which they possess that are worth stealing, are their rifles; also that Government is obtaining their services without payment.

They should invariably be able to mark down and give warning of the passage of robbers through their beats, but it is the business of the military to round up gangs if they are well armed and show fight.

Between our administrative border and the Durand line lies a strip of independent territory, 50 to 100 miles broad, separating us from and acting as a buffer against Afghanistan. By agreement with His Highness the Amir, the British Government is at liberty to take over control of this country if necessary.

Piercing this strip of independent territory are four valleys, namely the Khyber, the Kurram, the Tochi and the Gomal. These, together with the Malakand, are administered by political agents, and may be regarded as British territory. Each political agent is supported by a militia; the Khyber Rifles and Kurram Militia being wholly recruited locally, while the Northern and Southern Waziristan Militias recruit only about half their strength from local sources.

The militias are officered by British officers of the Indian Army, and are well drilled and efficient. They have to a great extent relieved the regulars of all garrisoning of frontier posts; in many ways a fact to be deplored as the experience was invaluable.

IV. Characteristics and Customs of the Pathans.

The Pathan unlike his Balooch fellow is most democratic and, when in a position to do so, acknowledges no authority but his own.

Many distinctions are drawn between the fighting qualities of various tribes, but taking them generally they are all hardy and brave, can live and work on very little, are fairly good shots and no mean enemies.

The Afridi has little faith in the intervention of an Almighty who will render his enemy's bullets harmless, and is consequently the most canny in his methods. He sees no point in getting hurt without need and does not close with a man whom he can bring down with a long shot. The men of upper Swat and Buner are more gullible and tales of bullets warded off by angels, or turned to water on touching the true ghazi, find ready credence; with the result they can be worked up into a frenzy and persuaded to hurl themselves blindly against the infidel.

The Mohmands and Wazirs steer a middle course between the two. This difference in tactics is of course largely due to armament as well as racial characteristics. It is possible that the late influx of rifles may assimilate methods.

Tribal Law is strict in its main rules, which are backed by the Qoran, and the blood feud takes the place of a court of justice. Every Pathan knows that murder and certain other offences will

involve his family in a feud and what is more, he realizes that this addition to an already chequered existence will draw the wrath of his relations on himself. He consequently avoids such crimes unless temptation proves too strong.

Minor quarrels are settled by the elders or, in important matters, by Jirga; war if necessary, forming the final appeal. Taking things all round the tribesman gets on very well without courts or police.

Each individual considers it due to his manhood to maintain a certain semblance of order in his immediate circle and in this way becomes in himself both policeman and judge.

Laws of hospitality and Badragga (escort) are rarely violated and then usually through accident or misunderstanding.

A drive through the Kohat Pass shows the Pathan living his own life in his own way, and the continued absence of any breach of peace against the traveller is most remarkable. The men all carry arms but are peaceful and law abiding, except when a reasonable cause, calls for action.

Badraggas are provided to strangers who wish to pass through any portion of their country, payment being exacted and another escort obtained on entering the neighbour's territory. The badragga frequently consists of a small boy but his presence is a visible pledge and suffices to safeguard the traveller.

It will be seen that life across the border is not so impossible as many imagine. Criminals of course exist in large numbers, but so they do elsewhere.

The system just described develops powers of decision and independence with the result that the Pathan is extremely quick witted and clever. Compare the average coolie with his counterpart in England. The man who drives a mule will converse intelligibly on current affairs, will produce excellent reasons for his various acts and frequently has a surprising fund of quaint knowledge such as the names of birds and flowers and the association of cause with effect. The cleverest thing the Pathan ever did was to induce Commanding Officers of regiments to excuse him from passing examinations, with the result that all the drudgery of keeping the range registers and accounts was taken

off his shoulders by plodding Sikhs and Punjabis whilst the Pathan drew the pay and smiled.

He is often represented as a treacherous lying villain. So he frequently is, but he must be looked at from his own point of view. For instance, in a blood feud he has no course but to kill his man in the surest way, and the safest to himself. He is in exactly the same position as a hangman who has to execute a criminal, the difference being that the latter has adopted the profession from choice whereas the Pathan is forced to it by necessity. Children are not spared, as an opportunity lost may entail the death of a son. Any other course would strike him not only as illogical but as positively wrong. An incident in point occurred a short time ago when some Shilmanis managed to surround the house of a family with which they were at feud. All the members were present and the chance of settling the quarrel for good and all was too tempting to be lost. They killed the males but spared the women. One of these however, was with child. If this proves to be a boy the feud will be reopened and the responsibility from their point of view will lie with those who lost the opportunity of settling the vendetta.

Laws of hospitality are but rarely infringed and then only because a man is overcome by the temptation of making the most of a fleeting opportunity. The act is of course inexcusable and is regarded with opprobrium by his fellows, but it is not fair to condemn the entire race on account of a few such incidents whilst we accept as granted the many occasions when a host has not only spared but protected at his own risk an enemy who has taken shelter under his roof.

The light of after events has to some extent explained, though not excused, even the Maizar incident and shown that the attack was unpremeditated and due to a broil, brought on by a chance quarrel.

Most officers of the Indian Army will agree in saying that the Pathan has done loyal service and displayed qualities quite at variance with the character of the lying, blood-thirsty ruffian in which he is not infrequently represented. Many of his best qualities however disappear as he grows older when greed and ambition assert themselves and get the upper hand.

The next stage in his development not infrequently produces a venerable grey beard, sated with all that this existence offers and preparing for the joys of a world to come.

We should some times consider his view of us. He dreads our laws and the delay they entail and would far rather pay a large bribe to have his case settled at once, than see his money vanish into the pockets of vakils during a long lawsuit. Many natives are ruined in our courts as they force their suits through every possible court of appeal, thus falling readily a ready prey to unscrupulous lawyers.

The Pathan is full of self conceit and considers himself a match in the field for our best troops. A good hammering is badly required to eradicate this impression.

The feeling is fostered by our constant withdrawals from his country. The defeat, though appreciated at the time, is forgotten. children hear their parents' version of events, in which they naturally appear at their best and the Government to the worst advantage; it must have been hard to argue against Babar's pyramid of skulls at Tora Tigga. A notable feature is that our late enemies do not as a rule hate us. This may be ascribed to the fact that we have never fought them to the finish, our treaties savouring more of decisions in settlement of disputes than of terms dictated by a conqueror,

V. Armament and Fighting strength.

The tribesmen as all know, are now well armed, the quality and description of weapons varying greatly. Forty per cent of Afridis possess Lee-Metfords or Martinis of sorts, whereas it is doubtful if ten per cent could produce a like rifle in Buner.

Our superior fire, discipline and ammunition supply, would always remain great factors in our favour even were every Pathan to carry a "303."

About 10,000 Pathans from across the border are serving in our army, reserve, Border Military Police, and Militias, more than half being Afridis, the average amongst whom works out at one in eight of the tribal strength (40,200).

11,000 of the tribes within our border, are now serving; of these Yusufzais and Khattaks provide a quota of about 3,000 each.

The total fighting strength of all the tribes across the frontier may be taken at some 300,000. They are, however, very scattered in the long narrow belt of independent territory, and can, as a rule, be dealt with by our troops in detail.

Beyond the Durand Line lies Afghanistan, the home of a hardy race numbering close on 7,000,000 and with an army of nearly 100,000 men.

Kabul is not only the capital of Afghanistan but is also the centre of Pathan Mahomedanism.

Here repairs the Afghan in search of religious teaching, as also does the Pathan of our N.-W. Frontier Province. They visit the shrines, sit at the feet of the mullas and make obeisance to the King of Islam (a title commonly accorded nowadays to the Amir.)

From here are pulled those strings which influence fanaticism along the border. The working is at times reported as becoming rusty, feeling is too friendly towards the Sirkar; then it is that we hear of local unrest and preaching friars (emissaries of Kabul) whose task it is to keep religious hatred smouldering.

The Italian Campaign in Abyssinia,

OCTOBER 1895 TO MARCH 1896.

BY CAPTAIN G. P. STOCKLEY, 102ND K. G. O. GRENADIERS.

1. The disastrous campaign of the Italians in Abyssinia, which terminated at Adowa, and of which comparatively little mention is to be found in most tactical works, presents nevertheless a series of lessons which illustrate, the more clearly from the terrible consequences that followed on their neglect, several most important principles in both strategy and tactics.

2. A further interest attaches to it owing to the present position of Abyssinia, which bears to Egypt something of the same relation that Afghanistan does to India.

3. Both are countries in a state of only semi civilisation and both are known to be well equipped with modern weapons, whilst owing to its control of one of the main sources of the Nile the political importance of Abyssinia in relation to the Soudan can hardly be overestimated. It is well known also that the mere existence of a warlike and uncivilized nation on the frontier of a civilized power, is always fraught with hostile possibilities, and since Indian troops would undoubtedly be employed as before in any future campaign in Abyssinia, some account of the disaster that befell Italy in that country may prove of interest.

4. The campaign itself was a simple one, waged by the Italians with a force of moderate strength, such as we have ourselves frequently employed in India, and under not very dissimilar circumstances. In its effect followed cause with unerring regularity, and the lessons of the campaign are plain to all; so much so indeed, that the extreme caution that has marked the Italian strategy in the recent war in Tripoli, is probably largely due to their remembrance of the disastrous result of their rashness on this former occasion.

The short account here given is intended more as a review than as a study of this remarkable campaign, the facts of which are taken entirely from the work by Mr. G. F. H. Berkeley entitled, "The Campaign of Adowa and the Rise of Menelik," which

gives an excellent history both of the war and of the events that led up to it. The attached maps also are taken from the same source, and it is hoped that this short sketch may lead others to the study of a very valuable and interesting book.

5. The causes of the war are well set out in Mr. Berkeley's work—and to soldiers in India will form interesting reading, for certain historic parallels in our own dealings are brought forcibly to mind. Briefly, Italy, having established her colony at Erythrea on the Red Sea littoral, desired to extend a protectorate over Abyssinia, partly from ambition and partly from fear of being forestalled there by other nations. Her opportunity came on the death of the Emperor John of Abyssinia in battle with the Der-vishes at Metemmeh in 1889. There were then two claimants to the throne, one being Mangasha the natural son of the old Emperor, and the other Menelik the Ras or King of the important province of Shoa in the south of Abyssinia. The Italian Ministry in exchange for a treaty which besides greatly extending the colony's frontiers contained a certain degree of acknowledgment of a protectorate, lent their full support to Menelik, with the undoubted hope of eventually through his aid extending their power over all Abyssinia.

6. As is not unusual however when western statesmen negotiate with an oriental monarch, the mistake was made of entirely underestimating both Menelik's ambition and his ability, one might add also his unscrupulousness, but for the fact in Europe also the observance of such treaties depends chiefly on the power to enforce them. Anyway, despite the protests of General Baldiserra the then governor, who saw clearly the danger of such a policy, the treaty was concluded and Menelik was allowed a liberal loan of Italian money. He wasted no time in applying this to the purchase of arms and ammunition, which the Italians obligingly assisted him to import and therewith he consolidated his power and made himself Emperor; but when it came to the carrying out of his share of the bargain it was another matter.

After a deal of equivocation he finally denounced the treaty, proclaimed himself an independent sovereign, and announced as the boundaries of his kingdom, a line altogether

at variance with the Italian claims. Unless therefore Italy was prepared to renounce a large part of her pretensions in that direction a conflict was inevitable.

7. Unfortunately for Italy, the Ministry of Signor Crispi then in power, was not of a character to deal effectively with so grave a crisis, on the one hand it was reluctant to abandon its schemes of conquest in Africa and consequent popularity at home whilst on the other it refused in the then depreciated state of the national treasury to expend the money on preparations necessary to ensure success. As a consequence the fatal error was committed of embarking on a forward policy without the means to support it. Menelik's power and ability was systemetically underestimated, and the new Governor, General Baratieri was allowed to continue to extend the frontier of the colony, culminating with the annexation of the northernmost Abyssinian province of Tigre, without any adequate preparation being made to meet the storm already gathering. The Italian commanders also, deceived by a series of brilliant victories over tribal gatherings, never believed till it was forced upon them, that Menelik could possibly maintain a large army in the field or unite the ever warring chiefs of the country in a common cause.

8. This was the position at the end of October 1895 when the state of the rival forces was roughly as follows. General Arimondi in charge of the newly acquired province of Tigre had his head quarters at Macalle and possessed in all about 7500 men, of whom only 4500 were regulars. In addition he had the support of two of the petty chiefs of the province who however only brought him another 600 men. For the further defence of the colony, General Baratieri, then at Adigrat, could muster only some 6000 men mostly of a militia standard. Beyond these he had to rely on reinforcements from Italy who had for the most part not yet embarked. Menelik on the other hand was already marching on Tigre from the south, with an army estimated as high as 120,000 warriors. With extraordinary ability he had obtained the support and presence of all the great chieftains of Abyssinia, and there existed besides throughout the country a national spirit directed

against the Italians, which the most experienced observers had never believed possible.

9. The Abyssinian army formed a strange mixture of the old and the new forms of warfare. Each feudal chief led into action his own retainers independently of others, there was little attempt at any plan of battle or any organisation to direct it, but the chiefs and warriors alike habituated to war were quick to seize any tactical advantage without the need of orders. The men were fanatically brave and of extraordinary activity and endurance. A large part were armed with modern rifles and were able to use them with effect. In attack they favoured the half moon formation of the old Zulu impis, and like them always endeavoured to envelope the flanks of their enemy. Like the Somalis, riflemen and spearmen were mixed in the fighting line, and when a rifleman fell another took his place and weapon, but in dash and courage they were far superior to Somalis. The bulk of the army was composed of infantry but from the Galla tribes of the south came a large body of horsemen distinguished for their activity and boldness. Menelik also possessed some few modern guns, and though his gunners could make no stand against the Italian batteries in the field, they were used with effect at the siege of Macalle. Such then was the army, formidable from its courage and its overpowering numbers, and led by the greatest man that Abyssinia has produced.

10. Of Menelik's personal character little is accurately known, he is said to have been averse to war, and to have shone more in policy and organization than in actual fighting. Nevertheless in this campaign he showed himself a sound if not a brilliant leader not to be induced to fight against his judgment or on unfavourable ground. When it is remembered that his army was composed of the followers of so many warlike and half independent chiefs, generally at feud with each other and of doubtful loyalty, one cannot but wonder at the skill with which Menelik kept such a force together, and without transport or commissariat maintained it in the field.

11. The Italian forces consisted of, first the native battalions of the colony known as Askaris and secondly the regular regiments from Italy- The native troops comprised infantry and

some mountain batteries, but no cavalry either native or Italian were employed, though the presence of some light squadrons would have been very useful despite the difficult nature of the country. The Askaris were recruited from the Christian and Mahomedan tribes of Erythrea and the adjoining country, whilst Soudanese were preferred for the artillery. All accounts agree that they made excellent native troops, brave, hardy and faithful to a remarkable degree. Their marching was splendid and they were of course subsisted much easier than Europeans. The regiments from Italy were not available at the outset of the war, and the defects of the army that fought at Adowa will be described later. It is however worth noting here that the Italian regiments employed in the campaign were composed of volunteers for African service drawn from many different corps, and hence despite courage and patriotism, lacked the discipline and mutual confidence between all ranks which long training in a regular battalion confers. The supreme command of the operation was in the hands of the Governor General Baratieri, whilst General Arimondi was nominated commander of the troops, but was unable in the circumstances to exercise any truly independent power. This is generally held to have been the cause of a certain amount of friction between the two generals and to have exercised a baneful influence on the course of the war.

12. The campaign opened badly for the Italians. Baratieri's plan was for General Arimondi to hold Macalle as the first line of defence and if attacked in force, to withdraw on Adigrat, where the whole army was to concentrate. But Arimondi who it is said favoured a bolder policy, pushed forward a force of observation of 1800 men under Major Toselli to the advanced position of Amba Alagi 36 miles to the south. Owing to an error in telegraphing a message, Toselli was led to believe that he was intended to hold this position till reinforced, with the result that his small command was cut to pieces by the Abyssinian advance guard, Arimondi thereupon was forced to retreat hastily on Adigrat leaving a garrison of one native battalion and two guns in the small fort at Macalle.

13. This was undoubtedly a mistake even though there was no time to destroy the stores in the fort, for the Italians could

ill spare a single battalion from their small force, whilst Menelik had he wished, could easily have detached sufficient force to contain the garrison without impeding his advance. As it happened Menelik halted and laid siege to Macalle, the relief of which was impossible, whilst the water supply situated outside the fort was soon cut off. After a gallant resistance and the repulse of several assaults, the garrison was reduced to great extremity, and finally capitulated by Baratieri's order on the 20th January 1896.

14. Menelik granted very favourable terms to the garrison, agreeing to escort them honourably to the Italian camp at Adigrat. In this however he was not actuated solely by generosity, for his army had consumed all the supplies round Macalle and a move was imperative. With a truly oriental strategy he utilized the captured garrison and its escort as a screen between his army and the Italians, compelling them to march by a circular route to Adigrat for this purpose, whilst he himself moved his army to Adowa, the centre of a fertile and untouched district and from which he could harass the Italians line of communication.

Here he halted hoping that the Italians might be induced to leave their strong position at Adigrat in order to attack him.

15. Meanwhile Baratieri was assembling his army at Adigrat, the reinforcements from Italy had arrived, and at the beginning of February his force totalled 20,000 men. More than this number he could not keep supplied by reason of the inadequate preparations that had been made for the campaign. From the first to the fourteenth he manoeuvred to guard his communications, now harassed by Menelik's light troops, and from then till the end of the month, the two armies remained facing each other. Menelik at Adowa and the Italians on the heights of Sauria. Both commanders were unwilling to risk an attack, and hoped that the other would be induced to take the offensive, and both were confronted with much the same difficulties.

16. Menelik at Adowa had now about 80,000 men, and he was already again experiencing the greatest difficulty in feeding this large force. The supplies of the district were nearly exhaus-

ted, he could not move north leaving Baratieri at Adigrat and he had in fact to choose between a battle and retiring, in which latter case his army would soon melt away. He was by no means sure of the loyalty of many of his principal chiefs who were not above negotiating secretly with the enemy. His followers also were anxious for battle, and if this was refused, would probably desert to their homes as is the invariable weakness of irregular armies. On the other hand, he had learnt from his losses at Macalle the strength of modern troops and armaments in fortified positions and was very unwilling to commit himself to an attack on the whole Italian army under similar conditions. His one hope therefore lay in inducing Baratieri to take the offensive. He had accurate intelligence from spies of the state of the Italian army, and it is said that he even utilised these to exaggerate his own weakness. It is known that he spent much time in the church at Adowa praying to the saints for an Italian advance.

17. Baratieri had by this time 20,000 men and 59 guns, even had he been able to assemble a stronger force, he could not have kept it supplied. He was now better able to estimate Menelik's strength and he probably recognised also that his army was not yet in a fit state to take the field. As regards this, a great deal of criticism was directed after Adowa on the state of the Italian army and it was even freely stated that its defeat was inevitable from the first. This is doubtful, for just as a victory is prone to result in exaggeration of the merits of the victors, so defeat exaggerates defects. The fact was Baratieri's was a raw army, which had not had time to get pulled together. The Italian regiments composed as already described of volunteers from different corps, lacked to some extent the discipline and cohesion of well trained regiments, but their morale was all right, and they were eager to fight. Impatience and grumbling over short rations and the digging of fortifications was common as is often the case in all armies, but that they could fight well if given a fair chance was clearly shown by General Dabormida's brigade at Adowa. More important than this was the lack of a staff trained to work together, and the want of confidence in their general on the part of the brigade commanders, who, one and all, persisted in greatly underestimating the Abyssinian strength

and attributed to a want of energy and boldness, the very natural caution of the Governor, who more rightly gauged the dangers of his position.

18. Baratieri himself was most unwilling to take the offensive, for he was not unaware of Menelik's difficulties and hoped that the latter would either attack him or retire. Unfortunately he also found it impossible to remain where he was much longer. Already his troops were on short rations and on the 22nd of February he could hold out for only ten days longer. The reason for this was the length of his line of communication, constantly harried by rebellious tribesmen, and the breakdown of the transport resulting from inadequate preparations.

19. Since therefore Menelik still refused to attack, Baratieri had to choose between taking the offensive or else retiring to a new position nearer to his base of supplies. That he would have chosen the latter alternative is certain, but for the opposition of the army generally and the pressure brought to bear on him by the Italian ministry. This latter was the result of popular feeling in Italy, which demanded a speedy victory in revenge for the disaster of Amba Alagi, and was impatient at the slow progress of the campaign. As a result the Cabinet, which was responsible for the war, becoming alarmed for its own existence, did not hesitate to practically dictate a course of action to the general commanding, with but little regard to the military position.

20. This may be best illustrated by quoting from the dispatch sent by the Prime Minister Signor Crispi to General Baratieri at this juncture, which ran as follows. "This is a military phthisis not a war, small skirmishes in which we are always facing the enemy with inferior numbers.....it is clear to me that there is no fundamental plan in this campaign and I should like one to be formulated. We are ready for any sacrifice in order to save the honour of the army and the prestige of the monarchy."

21. Baratieri must have seen from this that he was expected to fight a battle and that any retrograde movement would be condemned and probably cause his supersession. Yet he was very loath to advance, on the 28th he even prepared a plan of retirement, but abandoned it in face of the protests of his brigadiers, all four of whom were unanimous for attack. Finally on the 29th,

the advance was decided on that ended at Adowa. How far his decision was caused by the pressure aforesaid, or to what extent he was misled by untrustworthy spies as to Menelik's weakness cannot be known, it is certain that had he only been able to remain in his strong position for a short time longer, Menelik's provisions would have been exhausted and he would probably have been compelled to retire, in which case the campaign must have ended differently.

22. Having resolved on his plan, Baratieri prepared to carry it out with considerable skill. He recognised to the full the difficulty of actually attacking the Abyssinians with so small a force in a country cut up by steep ravines and belts of thick jungle, where it would be almost impossible to preserve the cohesion, which could alone counterbalance the great numerical superiority of the enemy. His design therefore was to advance by night and occupy a strong position, near enough to the Abyssinians to provoke an attack, yet where the superior discipline and armament of his army would have full play. He judged rightly that Menelik could hardly refrain from accepting such a challenge without losing his power over his undisciplined warriors.

23. In theory this plan was a good one and whether the result would have been different, had Baratieri been able to carry it out in its entirety and array his whole force in good order on the position chosen is at least open to surmise. The great danger lay in the night march over a most difficult country without preliminary reconnaissance or any reliable maps, and it was this which eventually frustrated the entire scheme.

Battle of Adowa.

24. From the map, it will be seen that between the Italian camp at Sauria and Menelik's camp at Adowa lie two distinct chains of hills. One actually overlooks Adowa, and consists of the line, Mt. Nasrani-Gososo-Enda Kidane, the other nearer to the Italian camp, from which it is only nine miles distant, forms the line Mt. Semiata-Mt. Belah Mt. Enshasho. It was Baratieri's intention to occupy this latter line and there offer battle to the Abyssinians.

25. The position so chosen was a strong one, for even if Mt. Semiata could not be held, the group of hills between Mts. Enshasho and Rago form a natural buttress, strong on both flanks and very suitable for Baratieri's small force. It must be remembered however that the tropical vegetation of the country greatly limited the field of fire and so detracts from the apparent strength of the position as it appears on the map.

26. On the 29th February Baratieri issued his orders for the night march; they were roughly as follows. The army was to move in four brigades, the right column under General Dabormida via Zahala and Guldami Hill to the hill of Rabbi Arienni. The centre column under General Arimondi via Addi Dikki and Gunapta to Rabbi Arienni. Reserve column under General Ellena to follow the centre column to Rabbi Arienni at one hour's interval. The left column under General Albertone was to march via Adi Cheiras to Kidane Meret to guard the left flank; this column was composed of four native battalions and three batteries. Rabbi Arienni was thus the position of assembly of the right, centre and reserve columns; from there Baratieri intended to occupy the spur of Belah with his right, namely General Dabormida's brigade, Mt. Belah with the centre, Arimondi's brigade, while the ridge running up to Semiata and called by him Kidane Meret was to be held by Albertone's native brigade, the reserve column under General Ellena remaining at Rabbi Arienni. Such was the intention but unfortunately owing to the lack of reconnaissance and reliable maps, a fatal mistake had crept in to the orders. The true hill of Kidane Meret as known to the native guides accompanying the column, was not the ridge so called by Baratieri but quite a separate hill fully four miles further on toward Adowa as shown on the map.

27. The columns started at 9 p.m. and the first mishap that occurred was that near Gundapta, Albertone's column having swerved to the right got on to the same path as the centre column under Arimondi. The latter General had therefore to halt his troops whilst Albertone's battalions filed past. As a result, the left column got well ahead and about 3-15 a.m. arrived at its true destination, the ridge named by Baratieri Kidane

Meret. Here Albertone halted, but finding no sign of Arimondi's column on his right, began to get uneasy. He consulted his guides who affirmed that Kidane Meret was not his present position, but was some four miles further on. After waiting for an hour, he marched on, it is said with much anxiety and reluctance, in strict obedience to the letter of his orders. He thus arrived at the hill of Enda Kidane Meret as shown on the map at 6 a. m. wholly unsupported.

28. The remaining columns all reached Rabbi Arienni by 5-30 a. m. At dawn a fog covered the ground and Baratieri was quite ignorant that Albertone's brigade was so far in advance.

On the contrary he imagined it to be still within easy distance and at 6-45 he ordered General Dabormida to advance his brigade, to occupy the spur of Belah and if possible support Albertone. Such at least is Baratieri's version of his order but what General Dabormida understood appears to have been different. On reaching the spur, he naturally found it impossible from there to support Albertone now engaged with the enemy four miles off, so deeming it to be his duty to assist him he at once moved forward, and his column losing direction in the difficult and unreconnoitred country, inclined to the right instead of to the left and moved northward down the valley of Miriam. It thus became isolated both from the main body and from Albertone's column from which it was separated by Mts. Nasrani and Gososo already held by the advancing Abyssinians. By 8 a. m. therefore Baratieri had already lost two whole brigades, fully half his force, without even being aware of it. Only at 9 a. m. when the fog lifted was he able to perceive the dangerous position of the left column now heavily attacked by the enemy, whilst he still believed Dabormida to be holding the spur of Belah.

29. Baratieri now hastened south to Mt. Rago only to meet the first fugitives of Albertone's brigade. This latter had been attacked by the Abyssinians at 7-30 a. m. and despite a brave resistance was soon surrounded by masses of the enemy, whilst it strove desperately, like Toselli's force at Amba Alagi, to hold on to its position till reinforcements should arrive. Baratieri's message directing him to retire failed to reach Albertone and only at

10-30 did he order a retreat, which pressed by the enemy on all sides, soon became a rout.

30. Meanwhile since 9 a. m. Baratieri had been endeavouring in vain to reassemble his forces, his repeated orders to General Dabormida naturally failed to reach that officer, who was now engaged with the enemy some miles off in the valley of Miriam. Worse still, by the mistake of a messenger he was led to believe that the spur of Belah was still occupied whereas it was entirely undefended.

Under this misapprehension he formed up Arimondi's brigade on the slopes between Mt. Belah and Mt. Rago facing south with its right flank exposed. As a result at about 10-30 the spur of Belah was seized by the enemy, thus severing all hope of connection with Dabormida's column and at the same time Arimondi on Mt. Belah was heavily attacked in front and flank. It was in vain that a regiment from the reserve at Rabbi Arienni tried to recapture the spur, the enemy were already too strong. On the left also the victorious pursuers of Albertone's routed column swept round the Italian left flank and completely routing a native regiment brought up from the reserve, threatened the line of retreat to Gundapta. Arimondi on Mt. Belah was thus outflanked on both sides, whilst the reserve was already nearly exhausted.

31. At this point Baratieri ordered a general retirement. He hoped to cover it with Dabormida's brigade, but this as already explained was not available, there remained in fact only one battalion and two companies of the reserve. With these Baratieri endeavoured to stem the attack but failed. The retreat soon became a rout, and on the narrow paths crowded with fugitives, all order was speedily lost. The slaughter was great, but fortunately the Abyssinians only kept up the pursuit for about 6 to 9 miles, and what remained of the left, centre, and reserve columns reached the Italian fort of Adi Caji on the morning of the 3rd March, completely broken and disorganised,

32. Meanwhile the one remaining column, that of General Dabormida, had been making a gallant fight on its own in the valley of Miriam. For a time even it appeared successful, but naturally as the day wore on, the column became surrounded

till towards 4 p.m. it was fighting on three separate fronts, At 4-30 the retirement began, and thanks partly to a thunderstorm but chiefly owing to the firm courage displayed by all ranks, it succeeded in retreating in good order from the field though with enormous losses including the General and all its guns.

33. Thus ended the battle of Adowa and with it for the time being Italian ambitions in Africa. The Italian casualties in killed, wounded, and prisoners can be roughly calculated at from 11,000 to 12,000 men, the killed alone amounting to 6,133 whilst as a fighting force the army ceased to exist. The Abyssinian losses are estimated at 7,000 killed and 10,000 wounded. Seeing that the total strength of the Italian army that fought at Adowa was under 18,000 the extent of the disaster can be imagined. The Italian Cabinet resigned, and the new ministry shortly afterwards concluded a peace with Menelik on the basis of the complete independence of his kingdom.

34. It remains only to consider what were the precise causes of the final disaster. The defects of the army have been already described, as also the causes that induced Baratieri to take the offensive. To assume however that from that moment his defeat was inevitable is premature. More desperate enterprises have succeeded before now, despite an even greater disproportion in numbers, and Baratieri's plan, could it only have been carried out as intended, was by no means without its merits. Moreover it is only fair to state that whilst no attempt has been made here to enter into the details of the actual fighting, the general consensus of opinion amongst those officers that survived, is that the troops fought bravely enough, but were not given a fair chance of victory owing to the mistakes of their leaders.

35. The primary cause of the disaster was undoubtedly the action of General Albertone in advancing to the true hill of Enda Kidane Meret in advance of the general line indicated by Baratieri in his orders. If as stated by the latter, Albertone had sufficient grounds to suspect the error, but preferred acting on the strict letter of his orders to relying on his own judgment, then he certainly stands condemned according to our own regulations

in such cases; yet the confusion and uncertainty of a night march in such a difficult country must be remembered.

36. Following on this came the advance of Dabormida's brigade to support him, and the total loss of direction that followed. What precisely was the order given to Dabormida cannot be known, it is only certain that the result was disastrous. Once these two brigades had become isolated, defeat was practically inevitable, but Baratieri's mistaken assumption that the spur of Belah was still occupied when it was in reality undefended, precipitated the end.

37. The whole points to a want of confidence and co-operation between the General and his brigade commanders and the lack of a well trained Staff.

Such at least seems a reasonable conclusion to come to, and the Italian disaster may be held to exemplify unmistakably the wisdom of recent reforms in military organisation in India, which aim at putting in the field in war, divisions and brigades under the generals and staff that have trained them in peace.

Note.

The strength of the Italian army that fought at Adowa was as under.

<i>Left Column.</i> Native Brigade. Major-General Albertone,			
Four native battalions about 900 strong each ...	3700		
Two companies of native irregulars ...	376		
One battery and one section of native mountain			
artillery ...	6	guns	
Two batteries of Italian mountain artillery ...	8	guns	
Total about 4000 rifles and...	14	guns	
<i>Central Column.</i> 1st Infantry brigade. Major-Gen. Arimondi			
One regiment of Bersaglieri of two battalions			
about...	773		
One Italian infantry regiment of three battalions...	1500		
One company of the 5th native battalion ...	220		
Two Italian mountain batteries ...	12	guns	
Total about 2500 rifles and...	12	guns	
One Bersaglieri battalion had only 350 men present			

Right Column. 3rd Infantry Brigade. Major General

Dabormida.

Two Italian Infantry regiments of three battalions

each ... 2640

One battalion of native mobile militia ... 950

One company of native irregulars ... 210

Three Italian mountain batteries ... 18 guns

Total about 3800 rifles and ... 18 guns

Reserve Column. 3rd Infantry brigade. Major-Genl, Ellena.

Two Italian Infantry regiments of three battalions

about ... 2930.

One native battalion 1150.

A half company of engineers 70

Two quick firing batteries Italian 12 guns.

Total about 4150 rifles and ... 12 guns.

A grand total of about 15000 rifles and 56 guns. The best estimate of the Abyssinian force puts it at about 80,000 rifles, 8600 horses, and 42 guns besides some 20,000 spearmen as well.

in such cases; yet the confusion and uncertainty of a night march in such a difficult country must be remembered.

36. Following on this came the advance of Dabormida's brigade to support him, and the total loss of direction that followed. What precisely was the order given to Dabormida cannot be known, it is only certain that the result was disastrous. Once these two brigades had become isolated, defeat was practically inevitable, but Baratieri's mistaken assumption that the spur of Belah was still occupied when it was in reality undefended, precipitated the end.

37. The whole points to a want of confidence and co-operation between the General and his brigade commanders and the lack of a well trained Staff.

Such at least seems a reasonable conclusion to come to, and the Italian disaster may be held to exemplify unmistakably the wisdom of recent reforms in military organisation in India, which aim at putting in the field in war, divisions and brigades under the generals and staff that have trained them in peace.

Note.

The strength of the Italian army that fought at Adowa was as under.

<i>Left Column.</i> Native Brigade. Major-General Albertone,			
Four native battalions about 900 strong each ...	3700		
Two companies of native irregulars ...	376		
One battery and one section of native mountain artillery ...		6 guns	
Two batteries of Italian mountain artillery ...		8 guns	
Total about 4000 rifles and...		14 guns	
<i>Central Column.</i> 1st Infantry brigade. Major-Gen. Arimondi			
One regiment of Bersaglieri of two battalions about...	773		
One Italian infantry regiment of three battalions...	1500		
One company of the 5th native battalion ...	220		
Two Italian mountain batteries ...		12 guns	
Total about 2500 rifles and...		12 guns	
One Bersaglieri battalion had only 350 men present			

Right Column. 3rd Infantry Brigade. Major General Dabormida.

Two Italian Infantry regiments of three battalions

each ... 2640

One battalion of native mobile militia ... 950

One company of native irregulars ... 210

Three Italian mountain batteries ... 18 guns

Total about 3800 rifles and ... 18 guns

Reserve Column. 3rd Infantry brigade. Major-Genl. Ellena.

Two Italian Infantry regiments of three battalions

about ... 2930.

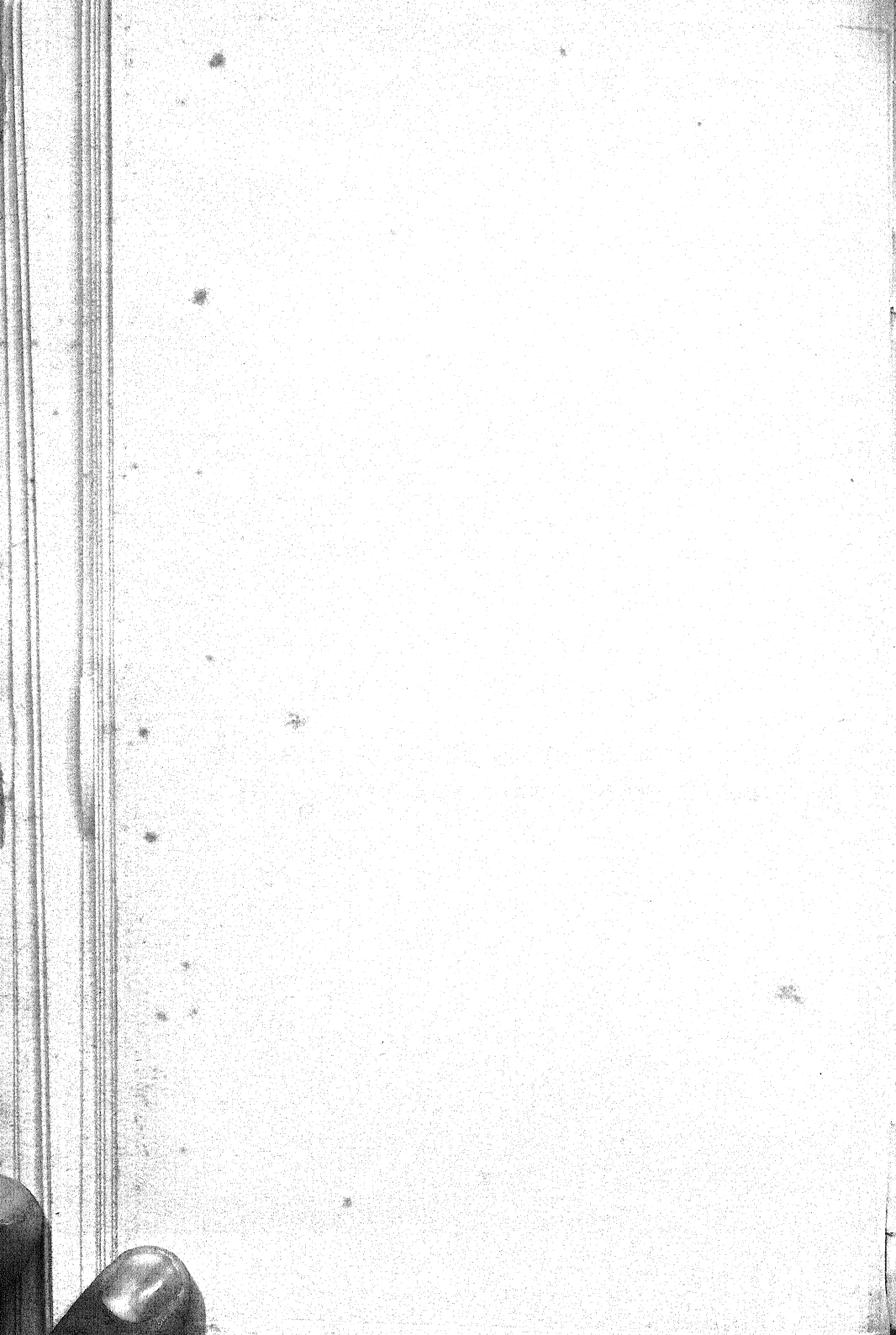
One native battalion ... 1150.

A half company of engineers ... 70

Two quick firing batteries Italian ... 12 guns.

Total about 4150 rifles and ... 12 guns.

A grand total of about 15000 rifles and 56 guns. The best estimate of the Abyssinian force puts it at about 80,000 rifles, 8600 horses, and 42 guns besides some 20,000 spearmen as well.



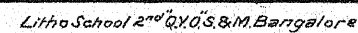
3N

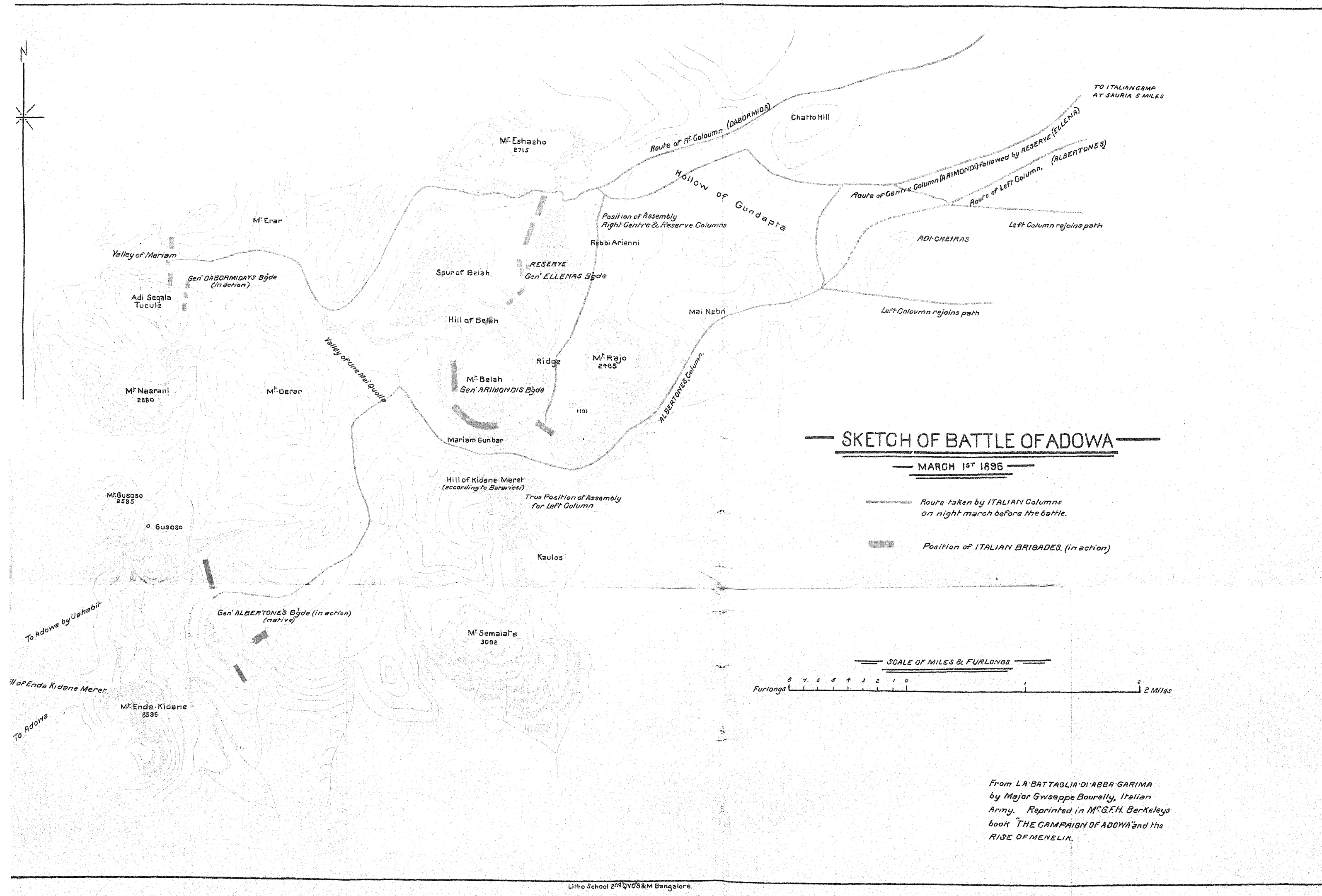
Seati

ication

*Massowa
Base*

- FROM THE "CAMPAIGN OF ADOWA" BY G.F.H. BERKELEY.







"The Panama Canal,"

BY CAPTAIN A. M. MOENS, 52ND SIKHS F. F.

As is generally known, the idea of a Trans-Isthmian canal is no new one. Even as early as 1520 King Charles V of Spain caused a survey to be made with the idea of cutting through the neck joining North and South America.

The idea was taken up again several times during the XVI, XVII and XVIII centuries, but it was not till the middle of the XIX century that any real efforts were made to commence a canal.

At this time the United States Government was much occupied with projects of Trans-Isthmian communications between the East and West of their territory.

The Nicaragua route was thought to be the best possible, but the only practicable terminal on the Atlantic side lay within territory over which Great Britain had long exercised control.

A treaty which afterwards become celebrated, known as the Clayton-Bulwer Treaty, was therefore concluded between Great Britain and the United States. By this treaty it was agreed that neither Great Britain nor the United States should ever obtain or maintain exclusive control of any Canal connecting the Atlantic and Pacific Oceans, not should they erect fortifications commanding the same.

This treaty certainly infringed the Monroe Doctrine which is supposed to be the rule guiding American foreign policy. It was clearly an arrangement with an European Power, primarily for the settlement of questions in the Western Hemisphere which affected American interests only.

There appears however to have been a period of suspended action in regard to the Monroe Doctrine between 1850 and the settlement of the American Civil War, probably owing to internal troubles. This treaty remained in force till 1901 when it was superseded by the Hay-Pauncefote treaty.

Meanwhile in 1855 the Panama railway was completed in spite of the difficulties of bad climate and construction; this railway formed the first Trans-Isthmian communication. Its construction was undertaken quite independently of any canal scheme, but still it exercised considerable effect on all of them, as the facilities afforded by the railway must be considered as one of the factors in favour of the route now being followed.

The first route to find favour in the eyes of the Americans was that via the Nicaragua Lake. The advantages put forward for it were, that the American fleet could be stationed in a central position on the lake, ready to operate in the Atlantic or Pacific, and that the water being fresh, the bottoms of the ships would not foul. Also that the lake being at the very highest point of the canal, would supply all the necessary water, locks of course being necessary. Again it was said that no more digging was required than for the Panama route, as the lake and the San Juan River would have furnished a large portion of the canal.

This route was the subject of a Commission appointed by the United States Government in 1866, and it was finally reported on favourably in 1876.

In 1875 Ferdinand Lesseps, the builder of the Suez Canal decided to form a Company for the carrying out of the Trans-Isthmian scheme.

This Company was actually formed in 1881, the money being all subscribed in France. Lesseps decided to use the Panama route on account of the facilities afforded by the railway. The failure of this Company was chiefly due to bribery and corruption, only one third of the money subscribed having been actually spent on the canal. The failure is said to have killed Lesseps, and with his death the scheme fell through, although a new French Company endeavoured to revive it in 1894.

The advantages the Americans hope to gain by the building of the canal are both commercial and strategical. Strategy however actually brought the matter to a crisis.

At the commencement of the war with Spain in 1898 the battleship Oregon was on the Pacific and had to steam round South America, a distance of 13,000 miles to effect a junction with the remainder of the fleet which was in the Atlantic. The Ore-

gon was one of the few battleships that the Americans possessed at the time and until her arrival at Key West the whole nation was in a state of nervous excitement. This experience, coupled with the fact that America had obtained a foothold in the Pacific by the acquisition of the Sandwich Islands appears to have been the deciding factor in determining that a Trans-Isthmian canal was a necessity to the United States.

Accordingly a Commission was appointed to enquire into the best route, this time to be under the management, control, and ownership of the United States.

The report of this Commission was presented to Congress about two years later. The advantages of both the Panama and Nicaragua routes were discussed at length, the general tendency being in favour of the Panama route.

The Nicaragua route was recommended however, unless the high price asked by the French Company for their works and property was modified.

The Commission recommended that if the works and property of the French Company could be obtained for 40 million dollars, they should be bought and the Panama route adopted. This 40 million dollars was to include the price of the railway.

This was done in 1902, and all ideas of a Nicaragua canal were given up, provided that the necessary right of control could be obtained from the Republic of Colombia.

The Clayton-Bulwer treaty still stood in the way of the United States obtaining full control, management and ownership of the proposed canal. After much discussion Great Britain consented to tear up this treaty, and to substitute the Hay-Pauncefote treaty, by which Great Britain renounced some of her rights.

There remained only Colombia to be dealt with. Negotiations were entered into in 1903 but nothing definite could be settled.

Shortly afterwards the province of Panama renounced its allegiance to Colombia. The United States immediately recognised the independence of the new Republic and even guaranteed it.

A treaty was quickly entered into by which the United States obtained complete ownership and control of the canal zone for the sum of ten million dollars, and an annual payment of 250,600 dollars, to commence in the year 1912.

By this treaty, which is called the Panama Convention or Hay-Bunau-Varilla Treaty, the United States are given the right to establish fortifications, among other concessions.

Before going into details about the canal, a few remarks about the country it will pass through and about the course to be followed are necessary.

Between Panama on the Pacific side and Colon on the Atlantic side the Isthmus is 36 miles across as the crow flies. The country generally is a mass of hills, divided by the valley of the river Chagres which flows from Alhajuela in a Southerly direction as far as Bas Obispo, where its course is altered. It now takes a North Westerly direction and flows into the Atlantic near Limon Bay. The distance from Limon Bay to Bas Obispo following the course of the River Chagres is 26 miles. From Bas Obispo to the Rio-Grande is another 9 miles, and it is this section which has been causing the most difficulty. From the point where the line strikes the Rio Grande to the sea is another 6 miles. Thus the total length of the canal is 41 miles. But in addition to this $4\frac{1}{2}$ miles must be dredged at either end beneath the sea before deep water is reached. So the total length of waterway will be 50 miles.

As regards the class of canal to be constructed, the board of Engineers appointed to advise on this point appear to have differed considerably in their opinion,

The majority reported that a sea level canal would be the most suitable. The opinion of the minority was taken however and it was decided to construct a high level canal.

There appear to have been three chief objections to the sea level scheme. Firstly the enormous cost to cut through the Culebra Cut rendered the scheme prohibitive.

Secondly it would take a very long time to construct the canal, and thirdly the development of a current due to the difference in the tide level on the Atlantic and Pacific sides would render navigation difficult.

For these reasons the high level scheme was adopted.

This scheme requires several locks and the creation of a lake known as the Gatun lake, caused by the damming of the River Chagres.

The maximum depth of the canal itself not counting the sea entrances is to be 500 feet. This is from Juan Grande to Bas Obispo. The minimum depth is to be 41 feet. The greatest draught of any warship now built is $29\frac{1}{2}$ feet, so there is a certain amount of spare for future developments.

It may be interesting to compare these figures with those of the Kiel and Suez canals.

The Kiel canal has a minimum depth of 31 feet, but it is being deepened.

The Suez canal has a minimum depth of 31 feet, but it is now being deepened and it is hoped that by 1915 a depth of 36 feet will be reached.

The minimum bottom width of the Panama canal is to be 200 feet while that of the Suez canal is 108 feet and the Kiel canal is only 70 feet. It will be seen therefore that the Panama canal is to be a considerable advance on any canal now existing.

Each lock in the Panama canal is to be 1000 feet long and 110 feet wide. The maximum beam of any warship now built is $93\frac{1}{4}$ feet so that there is sufficient spare for future developments.

At Gatun a vessel has to pass through three successive locks. There are two lots of these so that two vessels can be put through in either direction at the same time.

The passage of the three locks is to take 50 minutes. It is calculated that the passage of the canal will take 10 hours and on this basis it is hoped to put through 40 ships in the 24 hours. The average speed is about the same as that maintained in the Suez canal.

The plan of the canal is briefly as follows :—

A channel 500 feet wide protected by a breakwater will lead from Limon Bay to Gatun.

At Gatun there is a great earthen dam, 7,700 feet long and 2,060 feet wide. This dam is to catch the waters of the River

Chagres and to form the Gatun lake which will be 85 feet above sea level.

The next point to note after Gatun is the Culebra Cut, it is here that the great excavation is being made.

There is another lock at Pedro Miguel and two more at Miraflores a short way further on. These locks are of the same kind as those in use at Gatun. At Miraflores sea level is reached and no further difficulties are encountered.

With regard to the cost, the original estimate was 27 millions; this estimate was made in 1904. By 1909 this had risen to 78 millions and it is very likely that even this estimate will be exceeded.

Obviously the United States will be the chief gainers by the opening of the Panama canal. New York and the Eastern manufacturing states of America will be brought nearer to many markets which are now so far off as to render competition impossible. For instance Yokohama will be 1500 miles nearer to New York than to Liverpool and the canal will give 1000 miles advantage to New York in relation to Melbourne. The canal will favour Eastern American trade greatly. Auckland will be 2500 to 3000 miles nearer these states than any British port. This will naturally make American competition much keener than it is at present. It is true that New Zealand is brought 1300 miles nearer Great Britain by the Panama route, but very few vessels carry cargoes between British ports and New Zealand only. Most of them depend on shipments to and from Australia as well, and it is doubtful whether the saving of the 6 or 7 days voyage each way would compensate for the loss of the Australian trade. As far as Great Britain is concerned the Suez canal route will still be the shorter to India, China and Japan.

At present about 11 percent of Australia's American imports reach her direct from the United States and in addition to this, about 1 million pounds worth reach Australia through other countries, chiefly Great Britain. As the saving caused by the canal will be so great it is unlikely that this will continue to be shipped through Liverpool; it will probably go direct.

The British shipowners will therefore lose this freight. We shall score heavily in one respect however. The canal will provide an outlet for the produce of North Canada.

The freights on the Trans Continental railways are very low still it is practically impossible for land transport to compete with water transport for any long distance, and also it must be remembered that the time between the harvest and the closing of the St. Lawrence is too short to allow of its exit. The railways can certainly cope with the present traffic, but North West Canada is a rising country and undoubtedly the timber, fruit, fish, and grain trades will increase during the next few years. Not only will North West Canada benefit but California will also and in like manner the export trade from Great Britain will gain.

The South and Central American States are likely to be very considerably benefitted. At present the West coast trade of South America amounts to 60 million sterling. When there is direct communication with Europe through the canal it is certain that this trade will increase.

It is therefore probable that American trade will be stimulated by the opening of the Panama canal, as in addition to her trade with other countries East and West America will be able to use sea transport instead of rail for internal trade. The consequence of this will be to stimulate ship-building in the United States and in time they will build a large fleet of merchantmen and will become more and more a maritime nation.

As the United States gain from the point of view of commerce from the opening of the Panama canal, so do they gain from the point of view of strategy.

The possession of Key West, Guantanamo in Cuba which they are now making into a naval base, of Samana Bay in San Domingo and of Puerto Rico enable them to dominate the Gulf of Mexico, the Windward, and Mona passages. Jamaica is the weak point in their scheme. Still war between the United States and Great Britain is not likely to occur. It is certainly better for them that we should hold Jamaica than that any other power should do so.

On the Atlantic side the United States must be prepared to uphold her position in case of a European power taking too great an interest in Central and South America. This of course is quite a possible contingency.

In fact one of the results of the Agadir incident is that the United States Government represented at Berlin that if events in Morocco were to effect the present strategic position it might be necessary for the States to intervene. It was pointed out that the changes foreshadowed by the opening of the canal would make the acquisition of a Naval base on the Atlantic by Germany a matter of grave concern to the United States. If the canal had been open, the Agadir incident might have been treated by them as an event of first class importance, for they would undoubtedly have regarded it as a menace to themselves.

It is in the Pacific however where American interests chiefly lay, and where her position needs to be strengthened.

She is at present showing great activity there. Six 4 ins. guns have been ordered for Manilla and 2 for Honolulu; 5 of these have already been delivered.

Japan is a formidable power in the Pacific and it is unlikely that Korea will afford her sufficient scope for expansion. The Philippines might easily prove an attractive bait to Japan. We have seen also how relations became strained in 1906 and 1907 over the emigrant question.

Of recent years the United States have become more and more of a colonial power. Whether by accident or design does not affect the question. Her responsibilities remain the same. In the nineties she obtained possession of the Sandwich Islands. After the Spanish War she took over the Philippines, and Puerto Rico and gained a paramount influence in Cuba.

Quite lately Mexico concluded an agreement with Japan, with the result that the Mexican Government has notified the United States that the agreement under which the latter had the use of Magdalena Bay as a naval base and coaling station is ended. The bay on account of its situation and suitability is especially adapted as the base of a big fleet as it favours the connection between Panama and San Francisco, the only large naval station of the United States in the Pacific. Now the

Americans do not intend that the Pacific shall be dominated by Japan nor do they intend that their trade there should be captured by the Japanese. Therefore taking the above into consideration it is probable that the American Navy will become a good deal larger in the next few years than it is at present. When the canal is built a short route will be provided by which the fleet can be concentrated in either the Pacific or Atlantic as occasion demands.

At the beginning of 1909 Admiral Evans of the American Navy went on a practise cruise with 16 battleships from Hampton Roads to Magdalena Bay. This cruise took 4 months. When the canal is built the distance saved will be 8000 miles and the cruise will take 3 weeks. These figures serve to show how unfavourably situated the United States Navy is at present. The building of the canal should however alter this.

But as far as we are concerned it is not so much how the canal will affect the United States but how it will affect us.

Suppose Japan was paramount in the Pacific and not the United States, she would then be in a good position to dominate Australia. The canal then will indirectly be a source of strength to us in that the effect will probably be to cause an increase in the American Navy and so tend to preserve the status quo in the Pacific.

In addition to the above indirect advantage, suppose in time of war the Suez Canal were closed, or rather suppose the route were closed to us to the Far East, the Panama canal will provide an alternative route, granting that the United States are neutral, which is most probable. We ought therefore to strengthen our position in the Carribean Sea as much as possible. Our position now is good by virtue of our possessions, the chief of which is Jamaica given us by the foresight of Oliver Cromwell.

Having seen how important the canal is to America, the steps she is taking to safeguard this vulnerable spot must be considered.

The following extract from a speech made by Ex-President Roosevelt at Omaha on September 2nd 1910. shows one American view of the question.

"We have a duty to perform in connection with the Panama Canal and that is to fortify it. We are in honour bound to fortify it ourselves and only by so doing can we effectively guarantee that it shall not be used against us. The chief material advantage, certainly one of the chief material advantages which we shall gain by its construction is the way in which it will for defensive purposes double the power of the United States Navy. To refuse to fortify it and above all to consider for a moment such an act of utter weakness and folly as to invite other nations to step in and guarantee the neutrality of this purely American work would be to incur and quite rightfully the contempt of the world. It would mean the complete abandonment of the Monroe Doctrine, it would be a wicked blow to our prestige in the Pacific and moreover it would be in its essence treason to the destiny of the Republic."

The opinion of many distinguished Americans appears to differ from this view. They say that an international treaty is the most effective means of protecting the canal. It is argued that a nation at war with the United States would not dare to seize, interrupt, or destroy it. That the Hay-Pauncefote treaty means that the canal shall be internationalised. The latter view appears to be the correct one because if the United States are unable to prevent an enemys fleet from obtaining such control of the surrounding water that it can make a sustained attack on the fortifications, then the object of fortifying the canal, namely to keep it open in order to let the American fleet in the Atlantic join the fleet in the Pacific or vice versa would be gone.

Congress have decided on fortification however; and the work is now in progress.

In conclusion the fact must be emphasised that the effect of the canal will probably be to make the United States a more powerful maritime power and will increase her trade, which at present is not as great as might be expected from such a nation. and that it is to our interest to strengthen our hold on our fine strategic possessions in the Carribean Sea. American interests in the Pacific being our own interests we should foster good feeling with them in every possible way, and should always

resent too great interference of other foreign powers in these waters.

Since the above was written Lord Murray, acting on behalf of Messrs. Pearson & Co., has, after keen competition with European and American firms, succeeded in obtaining a 40 years concession to build railways, docks, quays, telegraphs and telephones and to search for and exploit oil deposits in the Republic of Colombia.

Lord Murray, owing to American press criticisms has, however, withdrawn from the contract to develop the oil resources of Colombia as considerable political feeling has been engendered.

No mention, however, has been made of a withdrawal of the right to build canals, railways, etc.

The possibilities as regards canal building are very great.

The Rios Atrato and the San Juan might be connected by cutting a little more than a mile in length.

The main stream of the Rios Atrato is from 40 to 70 feet deep. At present, however, the mouth of the river is obstructed by a bar which excludes vessels drawing over 5 or 6 feet. The bar is only alluvial deposit and can easily be dredged.

The San Juan which continues the main axis of the Atrato to the Pacific is nearly 200 miles long, but with its affluents has a navigable waterway of 300 miles.

The same disadvantage occurs in the case of the San Juan as of the Atrato namely the bar at the mouth near Bonaventura is at present only navigable for vessels of 6 or 7 feet. In this case dredging can also be carried out easily.

Another possible solution for a canal is to join Cupica Bay with the Atrato.

This plan has the advantages that the climate is far more healthy than in the valley of the San Juan and natural harbours exist at either end. Other schemes have also been proposed by Trautwine Porter and other engineers.

Selfridges two schemes which are those mentioned above, are however the most favoured and the cheapest.

It would seem that political reasons have precluded one of the above scheme being considered by the United States. Now that a concession to build a canal has actually been obtained, such projects as Selfridges take a new aspect. The cost of the Cupica Bay Atrato scheme has been estimated at 11 millions; a small amount compared to the Panama canal. Even supposing that this is as great an under estimate as the original Panama canal estimate, still the cost must be considerably less than that of the Panama Canal. Freights will therefore be less, and a dangerous competitor will have entered the field.

Extract From The Isthmian Canal Convention.

(Hay-Pauncefote Treaty)

Between the UNITED STATES and GREAT BRITAIN.

Signed November 18th 1901.

ARTICLE III.

The United States adopts as the basis of the neutralisation of such ship canal the following rules substantially as embodied in the Convention of Constantinople, signed 28th October 1888, for free navigation of the Suez Canal: that is to say:—

(1) The canal shall be free and open to the vessels of commerce and of war of all nations observing these rules, on terms of entire equality; so that there shall be no discrimination against any such nation or its citizens or subjects in respect of the conditions or charges of traffic, or otherwise. Such conditions and charges of traffic shall be just and equitable.

(2) The canal shall never be blockaded nor shall any right of war be exercised nor act of hostility be committed within it. The United States however shall be at liberty to maintain such military police along the canal as may be necessary to protect it against lawlessness and disorder.

(3) Vessels of war of a belligerent shall not revictual nor take any stores in the canal except so far as may be strictly necessary; and the transit of such vessels through the canal shall be effected with the least possible delay in accordance with the regulations in force, and with only such intermission as may result from the necessities of the service. Prizes shall be in all

respects subject to the same rules as vessels of war of the belligerents.

(4) No belligerent shall embark or disembark troops, munitions of war or warlike materials in the canal except in case of accidental hindrance of the transit and in such case transit shall be resumed with all possible despatch.

(5) The provisions of this article shall apply to waters adjacent to the canal within 3 marine miles of either end. Vessels of war of a belligerent shall not remain in such waters longer than 24 hours at any one time except in case of distress, and in such case shall depart as soon as possible, but a vessel of war of one belligerent shall not depart within 24 hours from the departure of a vessel of war of the other belligerent.

(6) The plant, establishments, buildings and all works necessary to the construction, maintenance and operation of the canal shall be deemed to be parts thereof for the purpose of this treaty, and in time of war, as in time of peace, shall enjoy complete immunity from attack or injury by belligerents, and from acts calculated to impair their usefulness as part of the canal.

Extract from the Panama Canal Convention.

(Hay-Bunau-Varilla Treaty)

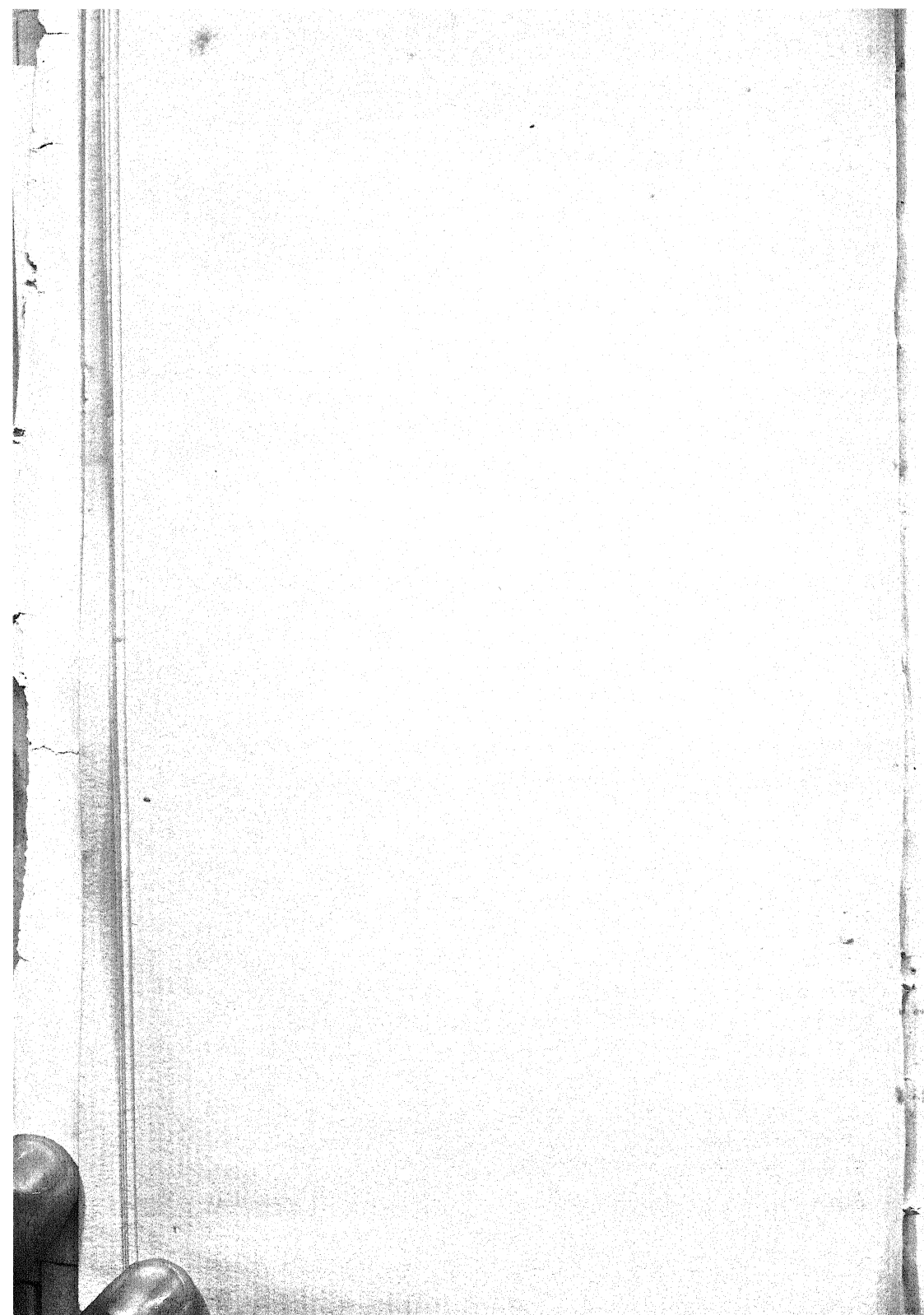
Between the UNITED STATES and the State of PANAMA.

ratified February 26th 1904.

ARTICLE XVIII.

The canal, when constructed, and the entrances thereto shall be opened upon the terms provided for by Section 1 of Article III of, and in conformity with all the stipulations of, the treaty entered into by the Governments of the United States and Great Britain on November 18th 1901.

If it should become necessary at any time to employ armed forces for the safety or protection of the canal, or of the ships that make use of the same, or the railways or auxiliary works, the United States shall have the right, at all times and in its discretion, to use its land and naval forces or to establish fortifications for these purposes.



An Incident of the first Sikh War

BY MAJOR H. BIDDULPH, R. E.

The 1st Sikh war figures prominently in the biographies of many well known soldiers, and indeed, this is to be expected when one considers the importance that attaches to the various parts played by the chief actors in it, the vital issues that trembled in the balance, and the extraordinarily heavy casualties that the Army of the Sutlej sustained in those eight short weeks of bloody conflict with the Khalsa, of which the European troops bore the brunt and acquired the chief glory at such heavy cost to themselves.

In addition to so much of historical importance, the campaign occasioned several incidents of a personal character, but of considerable interest. Among these latter the adventure that befell Captain George Biddulph is perhaps the most noteworthy, and it attracted a good deal of notice in India at the time. His story, which he published in an Indian local paper long defunct is told best in his own words, but a few introductory remarks will be useful by way of explanation.

George Biddulph, son of the Rev. John Biddulph of Birbury, was born in 1811, and was the second of three brothers to enter the Bengal Army, all of whom served in the same regiment the 45th Bengal N. Infantry. The brothers were men of great stature, and it used to be said that their total height, measured on the messroom floor was 19 feet. It is probable that if George Biddulph had been only of ordinary height he would not have fallen on the field of battle.

In 1845 Captain George Biddulph was stationed with his regiment at Umballa, and in the month of December of that year, a few days before the Sikh army crossed the Sutlej, and *ipso facto* declared war on the British, he received orders to join the 3rd Irregular Cavalry as 2nd in command.

The 3rd (Tait's) Irregular Cavalry formed part of the small force, under the command of Sir John Littler that garrisoned Ferozepore, the dangerously advanced outpost of the British Army, and it was while marching to join his new regiment that

the events happened, of which the following is his own account, dated "Army of the Sutlej near Ferozepore, January 19th 1846."

"I left Umballa on the 5th of December to join my corps. I reached within four stages of Ferozepore, when alarming reports prevailed of a Sikh invasion, and the villagers told me I must be on my guard; parties of plundering horsemen scoured the country, and I had several serious alarms, but considered that to turn round and run would only ensure instant destruction. I put a bold face upon it therefore, and continued to advance: At Moodkee, sixteen miles from Ferozepore, on my arrival, I saw we should probably be attacked, and made preparations accordingly; horsemen left the village at dusk and proceeded on different roads, as it seemed to me to bring up more during the night; three men came singly to me after dusk, saying I should be attacked, and advising me to ride for my life, but these men I treated as spies, and told them I feared nothing, and would abide with my people and baggage. During the night we kept anxious watch, and observed fifteen horsemen enter the village; at daylight the attack commenced. I was surrounded by matchlock men, spearmen, and swordsmen, and told to surrender, I said 'Never'. Twice we drove them back, but at length more and more men came on; they seized my horses, plundered the baggage, and separated many of the servants from me. I then attempted to force a passage to Ferozepore; spearmen and matchlock men held me at bay in front, others rushed on me from behind, I was knocked down and stunned with blows on the head and face, carried into a small fort and kept prisoner. Soon after the people in the fort manned the walls and prepared for a battle; this told me some of our troops must be near at hand, but ere they arrived, I was hurried out of the place, put on a horse behind a Sikh trooper, and with a strong escort galloped off some nine or ten miles. Judge my horror when I saw before me the whole Sikh camp and army! I was taken up and down their position amidst excited crowds, who abused and poked me right and left; my gallant horsemen, however, protected my life, but I saw with alarm a large beam on two posts, bearing a most unpleasant resemblance to a gallows; multitudes were around it, and I prepared for death, praying that

I might not be tortured, and die calmly. We passed this, however, and at last reached Rajah Lall Singh's tent; Akalies going in and out, shook their swords at me, and crowds thronged me; Lall Singh came out and I addressed him, but he would not hear me, ordering me to be put in irons and made over to the commandant of artillery; thither I was taken. The general spoke angrily and sent me away to his men; I was then chained under a gun, and a guard placed over me. Thus I lay for three days and nights; bitter cold it was; chapatees my food, water my drink; and many anxious thoughts prolonged my days into weeks, my nights into months. Daily I was thronged, abused, and threatened; hundreds of questions put to me; and attempting offers of service made, all of which I steadily refused. The artillery-men became my fast friends, defended my life, and as far as possible drove back the crowds, and tried to shame those who threatened me. Even in such a precarious situation, life has its pleasures and enjoyment; the calm of night, cessation from teasing multitudes, a chat with the artillery-men, smoking through my hands from a chillum without a pipe; the thousands of reports, strange sights and scenes, the pity of some, the wonder of *all!*—was not this happiness? Indeed, I began almost to be happy; at any rate I could laugh. But the scene was now to change.

"The battle of Moodkee 18th December 1845 roused my hopes; I sat on a board behind a gun, and the artillery-men with lighted matches stood around. It seemed the fight drew near and more near, fancy almost rang the clangour of a charge in my anxious senses, and then the thought whether victory to us would not be death to me came to calm my too buoyant hopes. I remembered Loveday,* he was my ship companion!! At eleven at night the gun ceased, the file-firing died away, and I heard the bustle of the Sikh troops retiring into camp; who shall describe then the prisoner's feelings? I cannot.

"Morning at last came, and I soon perceived that the boastful pride of our enemy had greatly abated, their tone was altered

* Lieutenant Loveday. Political Agent at Khelat, was taken prisoner by the Baluchies during the course of the 1st Afghan War and after suffering barbarous treatment at their hands was cruelly murdered near Dadur on 29th October 1840.

and my condition seemed better. Another day, another night, succeeded; the third I was suddenly summoned to the Chief Beharie Ally Khan, and on my way to him, a smith appeared, and my irons were taken off. On entering the chief's tent, he spoke kindly gave me water to wash, and said he would get me released. Some conversation ensued, and an Afghan Sirdar, who had visited me the day before, evidently interested himself in my behalf; we started for Lall Singh's quarters, but on the way there I was sent back to my gun,

Some anxious hours passed, and when the unruly multitude heard I was likely to be released, a row commenced; my friends of the artillery stood to their guns, and declared they would fire if I were touched; by degrees matters smoothed down, and the crowd dispersed. Suddenly, I was told I might go! I desired the messenger to make my grateful acknowledgements to the chiefs, and took leave of my Bhai, the artillerymen, but I said, 'I shall be cut down directly I leave your lines.' Two of them offered to accompany me, and though their authority was not much to protect me, the risk must be run; off we set, and the sun never seemed to me to shine so cheerfully before. Then a brother of the artillery chief's ran after us, and said he would get me through their outposts; he sent the two artillery-men back, and on we went. Many were the stoppages and much demur at the last outpost, five miles from their camp, but my friend satisfied them all. Merrily we trudged the ten miles to Moodkee, and the reception I met from all was grateful indeed, and never to be forgotten. My companion received from the Governor-general 1000 rupees, and offers of service if he chose to stay with us; but he returned, however, after the battles, to his own people or home. The 21st and 22nd saw the Sikhs

Battle of Feroze Shah
where the British casualties
numbered 2,800.

routed after a desperate resistance, but the Governor-general would not allow me to mingle in the fray, as he said I owed *that* at least to the enemy who released me, although I refused to give any pledge not to fight."

Captain Biddulph's entry into the British Camp at Moodkee is noted in the diary of Sir H. Hardinge's Chaplain, the Rev. J. Coley, where he writes: "Captain Biddulph has returned....."

he has also given us some idea of the number of their guns and the order in which they are disposed. He is clothed in a long red garment, which the Sikhs put on him for decency's sake when they dismissed him, his own dress having been taken away."

The two men chiefly instrumental in saving his life were General Makhe Khan, commandant of the Sikh artillery, and his relative Colonel Bundeh Khan; and it is probably due to the fact that the artillerymen were Mahommedans and not Sikhs that their prisoner was not murdered.

Makhe Khan fell at Sobraon on the 10th February 1846, fighting his guns to the last, but it is pleasing to record that his humane protection of George Biddulph was not forgotten by the Government of India, who granted to his infant son a pension of Rs. 180 per annum in recognition of his father's good behaviour and later on gave him employment in their service. This son, Hussain Baksh, is still alive, now nearly 70 years of age, and he recently paid a complimentary visit to a member of the family serving in India.

The after career of Captain Biddulph can be told in a few words. He served with the 3rd Irregular Cavalry throughout the 2nd Sikh war, and was engaged at Sadoolapore, Chilianwala, and the "crowning victory" of Goojerat.

As a Lieutenant-Colonel he was on furlough in England when the Mutiny broke out, and hastening back to India he was appointed Deputy Quartermaster-General of the force that marched to the relief of Lucknow under Sir Colin Campbell. During the fighting that occurred on the 18th November 1857, (the day after the relief of the Residency, on which the dangerous task of evacuation commenced), he was sent to obtain information from Russell's brigade, which was engaged hotly with the enemy. While so doing Russell was wounded severely, and Biddulph, as the next senior officer present, had to assume the command, but scarcely an hour later he too fell, killed by a bullet in the brain. The bullet had passed through the helmet of an officer standing by him, leaving the latter unharmed. Thus the life that once had been saved by the cannon of an enemy, was taken by the bullet of a rebel sepoy.

The Problem of the Gurkha Settled in India.

BY MAJOR B. U. NICOLAY, 1-4th GURKHA RIFLES,

There is a well defined feeling at the present time that when a Gurkha soldier has finished his service with his corps he should return to his own country, there to settle down and bring up his family. A great many recruits are taken out of Nepal every year to meet the requirements of our Gurkha Battalions and Military Police Battalions, and it is only just to the State that puts no difficulties in the way of our recruiting that no encouragement should be given to retiring soldiers to settle in British India in preference to returning to Nepal. Such a policy would be obviously bad from the British point of view, as the population of the best recruiting ground would be gradually depleted and the supply of recruits from Nepal would in course of time become limited. The surroundings in his own country tend to make the Gurkha a better man than when settled under British rule. But there is another side to the question. The Gurkha soldier who settles in India is of one of three classes --(1) the man with brains who has taken his pension as a Gurkha Officer or N. C. O. --(2) the man born in India whose forefathers have served in some Gurkha unit, and --(3) the man with a family on a small pension (perhaps without one) who has lost all connection with his home in Nepal through death, law-suits, or other family trouble. Men with ties in Nepal have no wish to settle elsewhere than in their own country.

The reasons why the first class does not wish to return to Nepal are not difficult to appreciate. The man has had a successful career, the battalion has become his home. If he settles down near his battalion he can get education for his family his pension is paid without difficulty, he has old associates, and he has position. In Nepal he has none of these things; his status is no better than a sepoy's. It is not surprising therefore that a good many of the senior ranks on taking pension do settle in India.

The second class does not know Nepal, and does not wish to settle in a foreign country when getting on in life.

The third class is small but still it exists, and will continue to exist as long as Gurkha Battalions have married establishments. These people are poor and cannot afford to buy land. They settle down in the first place near their old Battalion. If there is no room for them they drift along to the neighbourhood where other pensioners are settled and get merged among the people of the locality.

As far back as 1860 the desirability of having Gurkha colonies in India from which to obtain recruits in time of need was recognised, and land was given near certain of the Gurkha stations with this end in view. A mistake was made in some instances in placing these colonies too close to the regimental lines, and they were given a bad name for producing or sheltering undesirable characters. The figures that follow will however prove that these settlements for Gurkhas have not been altogether undesirable.

It is very difficult to trace the actual numbers of Gurkhas settled in India through census returns, as care is not taken by enumerating officials in out-of-the-way districts to show Gurkhas. In 1898 an effort was made to obtain the number of pensioners settled in India by writing to the various post officers where pensions were paid. I give the list below :—

Abbottabad	...	...	...	10
Ambala	...	...	...	5
Amritsar	...	...	...	2
Almora	...	...	...	543
Benares	...	...	...	8
Dehra Dun	...	...	...	278
Dharmasala	...	...	...	243
Gorakhpore	...	...	...	52
Gurdaspur	...	...	...	65
Hoshiarpur	...	...	...	1
Simla	...	...	...	54

Total 1261

This list is by no means complete as pensioners are settled in Kashmir, Lansdowne, Darjeeling, Shillong, and Maymyo. The Gurkha population is naturally many times greater than the

number of pensioners. The numbers given for Gorakhpore are particularly interesting. These represent the people who have not gone to Nepal but who are scattered about the Gorakhpore District chiefly on the edge of the Terai; people who have lost connection with their villages and who would be infinitely better off in a Gurkha colony in the hills in India. In 1912 there were 1889 Gurkhas serving in the armed Forces of India who returned their homes as in India (including Sikkim). The numbers are as below:—

N. W. Frontier Province	...	22	(Around Abbottabad,)
Native States, Punjab	...	62	(Kashmir, Chamba, Simla Hills.)
Punjab	...	347	(Bakloh, Dharmsala.)
Cis-Sutlej Punjab	...	2	
United Provinces...	...	795	(About Dehra Dhun, Lansdowne, Almora)
Bengal	...	256	(Darjeeling).
Sikkim	...	107.	
E. Bengal and Assam	...	227	(Shillong, etc.)
Burma	...	64	(Maymyo etc.)
<hr/>			
Total	...	1889	

These figures may come as a surprise to many. They show at least that we have nearly two thousand Gurkhas serving the Empire who will not return to Nepal and that we have practically one full year's requirement of recruits enrolled in India. It should further be borne in mind that there is no encouragement given to the settled Gurkha to enlist, that those who are taken into battalions are a lucky few. Is it not worth while therefore to take a greater interest in the Gurkha settled in India, if only it be to keep him from falling into the hands of evil disposed people? The Sikh and the Punjabi are assisted by the Canal Colonies. What the Gurkha wants is colonies in the hills—especially for the Gurkha Battalions of the United Provinces, Punjab, and N. W. Frontier Province not too close to any Gurkha station. The country from the Western Nepal boundary to the Sutlej was once Gurkha country by right of conquest. If waste land could

be found in this region it is suggested that it is the direction in which one or two well organised Gurkha colonies should be placed, and where they would have every chance of meeting with success. The cordial support and sympathy of the Local Governments concerned is however vital to the success of any such scheme. The population of the varied races of Nepalese in the Darjeeling District number well over 100,000, a reserve of strength which has not apparently been appreciated, as recruiting is not allowed for the armed forces of India in this district, except for an occasional recruit whose enlistment must be sanctioned by civil authority. Neither Darjeeling nor the hills of the Punjab would appear badly placed positions for reserves of Gurkhas outside Nepal.

It is unnecessary to outline the rules and regulations by which a Gurkha colony should be governed, suffice it to say that every male member of the community who has not served in a Gurkha battalion should be called upon to undergo a period of training in a Gurkha Battalion.

The advantages hoped for and confidently expected from a scheme of this sort would be (1) a greater hold on the loyalty of the Gurkha population in India, (2) an improvement in the character and physique of the people, (3) a reserve of loyal men who could be relied upon in an emergency.

I do not think that the Maharaja of Nepal would look with disfavour on such a scheme were it clearly explained that any attempt to induce the Gurkha soldier whose home is in NEPAL to settle in India, would be discountenanced by the Government of India. The Maharaja of Nepal has shown by the support he has given to the Gurkha Asylum for orphans left in India, which is established in Simla, that he is not blind to charity—to establish a colony would be a charity to many, as well as being politically a sound step.

The following are extracts from a memorandum written by Sir Charles Reid in 1861, when there was a scheme on foot to reduce the four Gurkha regiments that then existed from 10 to 8 companies. At Delhi in 1857 Colonel Charles Reid commanded the Sirmoor Rifle Regiment. He writes as follows:—"..... The fighting Goorkha tribes are very

scarce, and are only to be found in three small districts in Nepal, viz-“ Lamjoon “ , “ Karskee “ , and “ Goorkha “ , and as proof of the difficulty experienced obtaining these excellent soldiers, I may mention that I was three years in completing my regiment after our losses at Delhi in 1857..... I was in hopes that I should have seen the Gurkha force increased to 1,000 per regiment, and that every inducement would have been given to this tribe to flock to our standard ; instead of which, the regiments have been reduced to 600 privates, thereby making them almost inefficient, as never more than 400 or 450 could take the field. In January 1858 and again in January 1860 I submitted a scheme for colonising the Dehra Doon with the Goorkha tribe, which met with Lord Canning's approval, as will be seen from the following extract of a letter from the Secretary to the Government of India—Military Department, dated Simla, May 7th 1860 ;—“ His Excellency the Governor General considers the suggestions of Colonel Reid highly deserving of consideration. His Excellency has decided that they shall be at once complied with, and the Commissioner will be instructed to make over to him the land required, without restricting the quantity to the 1,000 acres estimated for the purpose. The suggestion in regard to the entertainment of 50 boys appears to the Governor General an admirable one, and His Excellency is further pleased to sanction the maintenance of a recruiting depot in the Doon to supply all the Gurkha Regiments in the service.”

In conclusion I would faintly hope that.the four Gurkha regiments may be gradually raised to 1,000 privates, and that they should always be kept on a war footing, as long experience has told me that these excellent soldiers are not to be had on an emergency.”

In the fifty odd years that have passed since the above memorandum was written our recruiting relations with Nepal have completely changed, and we can now obtain without obstruction the 2,000 recruits we require every year to meet our peace wastage. But although the Central Nepal recruiting area has extended far beyond the districts of Lamjung,

Kaski, and Goorkha, the number of battalions drawing men from the area has increased fourfold. The memorandum was written with the remembrance of heavy losses still fresh, and it shows plainly the difficulty that was experienced in making good those losses, a difficulty that would again occur if all Gurkha Battalions were engaged in heavy fighting.

Our Battalions have not reached the "1,000 private strength" so strongly advocated by Sir Charles Reid, and so much more necessary now that our battalions are full of "specialists", whose absence from the firing line makes for numerical weakness.

By taking up the question of the retired Gurkha soldiers settled in India and his descendants and making the latter undergo a term of military training as a condition of their remaining in British India, we should keep up the characteristics of the expatriated Gurkha, obtain the men to give us the strength of "1,000 privates" per battalion without asking Nepal for another recruit above the yearly quota, and have ready to hand in India for a sudden emergency a reserve of loyal men whose interests are bound up with the British.

Quarterly Summary of Military News and Items of Interest.

ARMY HEADQUARTERS.—General Staff Branch.

Manoeuvres in Eastern Bengal.—The manoeuvres to be held in Eastern Bengal in January will cover a very wide area. The troops in concentrating will reach Dacca from nearly every direction and in dispersing will for the most part proceed by routes other than those by which they came.

The work during the concentration should be of an interesting nature. The four batteries will carry out their annual practice in the neighbourhood of Dacca, and will be available to accompany the other arms during manoeuvres.

Owing to the manner in which Eastern Bengal is intersected by waterways ordinary methods of transportation are out of the question. River steamers and flats will to a great extent take the place of the transport normally used for the carriage of equipment and supplies.

Advantage will be taken of the excellent accommodation available in Dacca to house as many as possible of the troops while they are actually there. While manoeuvring they will bivouac and special arrangements have been made for an issue of waterproof sheets as a protection against the very heavy dews to be expected in Eastern Bengal in January and February.

The experience which the troops will derive from exercises carried out in an area so unlike that to which they have been accustomed should prove of great value and the exercises themselves be very interesting. His Excellency the Commander-in-Chief has issued instructions for the grant of facilities to local Indian gentlemen of position to view the operations.

The concentration will be under the personal direction of Lieutenant General Sir Robert Scallan, K.C.B., etc. whose recent experience in Burma will enable him to make the best use of the various means of river transportation. A Company of Sappers and Miners has been placed at his disposal specially in connection with this.

Staff Exercise.—A staff exercise was held at the Montgomery Hall, Lahore, from November 3rd to 7th under the direction of H. E. the Commander-in-Chief for the purpose of testing the principles contained in F. S. R. Part II and the Staff Manual, War as applied to Indian conditions. 102 officers attended in all, including 28 General officers.

Japaness Military Attache.—Captain Joshitsugu Takakawa has replaced Major Midzumachi as the Japanese Military Attache in India.

Appointments.—Lieutenant Colonel J. K. Tod, 7th Hariana Lancers has succeeded Colonel A. S. Cobbe, V.C., D.S.O., A.D.C. as General Staff Officer 1st Grade in the Military Operations Branch at Army Headquarters India.

Captain F. G. Marsh, 9th Gurkha Rifles has succeeded Major E. A. F. Reid 113th Infantry as military attache at Meshed.

Exploration.—Captains Bailey and Morshed have returned to India having explored and surveyed the unmapped portion of the course of the Tsang-po from Longitude 92° to Longitude $92^{\circ} 15'$ and the southern Tibetan frontier from Pemakoi to Tawang.

Sir Aurel Stein arrived at Chilas on the 10th August and left for Hodar the following day. He subsequently passed safely through Darel and Tangir.

Frontier Constabulary.—The disbandment of the Border Military police is completed. The completion of the enlistment of the Frontier Constabulary to replace them was expected on October 1st.

Survey.—The Survey of India detachment under Lieutenant K. Mason R.E., which has been connecting Indian triangulation with that of Russia on the Pamirs in Chinese territory, has returned.

Military Aeronautics in Siam.—An aviation corps has been formed in Siam and three Siamese officers who have been studying aviation in France have brought out light machines, monoplanes and biplanes, purchased for the Army.

Chitral Reliefs.—The Chitral reliefs were carried out this year without incident, the relieved troops reaching Chakdara on the 17th October all well. The column crossed the Loarai Pass on the 9th and 10th October. The weather for three days

previously had been very bad and snow had fallen on the pass but not in sufficient quantity to make the crossing difficult. The Nawab of Dir accompanied the upward column as far as the Loarai Pass and returned from there with the downward column.

Dir.—The Nawab of Dir has been engaged in consolidating his position and executing vengeance on his recent opponents by confiscations, etc.

Mulla Powinda.—The Mulla Powinda died at his home on the 2nd November. His illness was short and sharp and developed very rapidly, it being surmised that the cause of his death was stone in the bladder. Nearly all the leading Mahsud maliks were at Sarwarkai with the Political Agent when the news arrived; it appeared a great shock to them, even the Mulla's most inveterate enemies professing intense sorrow. The Mulla nominated his second son Fazal Din as his successor.

Turco-Persian Delimitation Commission.—The British portion of the Commission for the delimitation of the Turco-Persian frontier assembled at Mohammerah in December and work is to commence early in January. The following appointments have been made to the Commission.

Commissioner, Mr. A.C. Wratislaw C.B., C.M.G., of the Consular Service.

Deputy Commissioner, Captain A. J. Wilson C.M.G. Indian Political Department.

A survey party, consisting of Lieut.-Colonel C. H. D. Ryder D.S.O., R.E., assisted by Major H. McCowie R.E. with Khan Bahadur Haji Abdul Rahim of the Provincial Service and three members of the subordinate service will accompany the Commission.

Lieutenant J. G. O. Yeats-Brown 17th Cavalry will command the escort of 30 Indian Cavalry.

An officer of the Medical Service will probably be attached to the Commission.

Masqat.—The Sultan of Masqat Saiyid Faisaldin-Turki, K.C.I.E., died on October 4th and was succeeded by his son Saiyid Taimur. The rebel forces in the interior still keep the field though no further developments have taken place. A position of stalemate really prevails and the Sultan is endeavouring to come to terms with the rebel leaders.

Persian Majlis.—At a meeting of prominent politicals and ecclesiastics held at Tehran in November the question of parliamentary elections was discussed; nothing was decided regarding the date of convocation of the Majlis and it was said to be doubtful whether elections would be held in 1913.

Communications in Central Asia.—The Khivan authorities have signified their willingness for the Khanate to be connected by rail with Russian territory and a line from one of the stations of the Central Asian line into the interior of the Khanate is projected.

Adjutant-General's Branch.

Amended regulations for officers of the Indian Ordnance Department have been issued—Officers appointed to the Department after 1st July 1910 vacate their appointments on attaining 52 years of age. Officers appointed to the Department previous to 1st July 1910 will be given the option of doing so.

2. In future the Inspector of Cavalry will only officially inspect brigades and the Cavalry School, Saugor. The inspection of individual regiments will be carried out by Brigadiers and Divisional Commanders.

3. The Mountain Artillery in India has been permanently brigaded as follows.

No. 1 British Mountain Artillery Brigade	{	No. 1	M. B. R. G. A.
		No. 2	" "
No. 2 " " " ...	{	No. 3	" "
		No. 4	" "
No. 3 " " " ...	{	No. 5	" "
		No. 6	" "
No. 4 " " " ...	{	No. 7	" "
		No. 8	" "
Unbrigaded	{	No. 9	" "
No. 1 Indian Mountain Artillery Brigade	{	21st Kohat	M. B. (F.F.)
		22nd Derajat	" "
No. 2 " " " " ...	{	23rd Peshawar	" "
		24th Hazara	" "
No. 3 " " " " ...	{	25th	" "
		26th Jacobs	" "
No. 4 " " " " ...	{	27th	" "
		28th	" "
No. 5 " " " " ...	{	26th	" "
		30th	" "
No. 6 " " " " ...	{	31st	" "
		32nd	" "

As far as possible batteries of a brigade will always be located together and move in relief as an intact brigade.

Quartermaster-General's Branch.

At the recent Railway Conference in Simla the rules for regulating military traffic were revised. The revised pamphlet will shortly appear in India Army Orders. It will be noticed that the most important change is that relating to "Goods intended for Government" about which there has been a certain amount of difference of opinion in interpreting the rules. In future military traffic rates will only apply to goods actually the property of Government in the Army Department at the time of despatch. This should now make the position clear to all.

4TH QUETTA DIVISION.

The reliefs this season bring many changes within the Division. The 1st Battalion Essex Regiment after four years in Quetta have left for Mauritius and Pretoria, and have been replaced by the 2nd Battalion Somerset Light Infantry from Tientsin.

The 2nd Battalion Royal Welsh Fusiliers leave for England in February next, and the 1st Battalion Lancashire Fusiliers have replaced the 1st Battalion York and Lancaster Regiment at Karachi.

The 23rd Cavalry, F. F. have left for Lahore Cantonment, and the 28th Light Cavalry are now stationed in Quetta the first Non-Silladar Regiment to be stationed in Baluchistan.

Old habitues of the Division return in the 126th Baluchistan Infantry who are to replace the 31st Punjabis at Fort Sandeman on their return from China, and the 127th Baluch Light Infantry who again revisit their headquarters at Karachi.

The 10th Jats leave for Jhansi, and the 19th Punjabis come to Quetta from Dargai, and the 12th Pioneers from Poona replace the 121st Pioneers. The 21st Brigade, R. F. A., from England relieves the 18th Brigade in Sind, and Nos. 3 and 7 Mountain Batteries, R. G. A. exchange between Egypt and Quetta respectively.

2. The 2-7th Gurkha Rifles have sent a detachment of 4 companies to Kacha to occupy the new lines there which have been constructed by the 121st Pioneers who return to Quetta on relief.

3. All regiments in Quetta have now got their own rifle ranges.

4. The Headquarters of the Brigadier General Commanding Royal Artillery, 4th and 5th Divisions have been transferred to Mhow.

5. The snow has arrived early this year, and by the beginning of December the hills were well covered, whilst heavy rain fell in Quetta.

6. Polo has continued into December. A local American handicap tournament was played in November, bringing the number of tournaments played in Quetta this season up to four.

7. The Quetta Hunt is enjoying very good sport. Hunting was commenced somewhat earlier in the season than usual, but owing to heavy losses in the young entry only 16 couple of hounds were available. A draft of 8½ couple of English hounds arrived from England in November, all being given by different packs at home. These new hounds are doing very well and add a welcome burst of music to the muteness that country bred hounds so often possess.

Two Hunt point-to-point meetings have taken place.

The annual team race was won by the 2-7th Gurkhas led by the present Master, Captain N. M. Wilson.

5TH MHOW DIVISION.

1. Major-General R. Lloyd-Payne C.B., D.S.O., and Colonel H. T. Brooking, G.S.O. (1) both returned from leave in England in October.

2. During November the Bhils in Sunth State got out of hand. The Bombay and Rajputana Politicals requisitioned troops from the Division. A Double Company of the 104th Wellesley's Rifles from Baroda and 125th Napier's Rifles from Mhow, with machine guns from the 7th (Duke of Cambridge's Own) Rajputs, Ahmedabad, were warned, together with the Mewar Bhil Corps.

Eventually 1 Double Company, 104th Wellesley's Rifles, machine gun detachment of 7th (Duke of Cambridge's Own) Rajputs from Godha and a portion of the Mewar Bhil Corps proceeded into the Bhil country. Some 2000 Bhils were collected

on Mangad hill, with their Gurus who had promised them immunity from rifle fire; they refused to disperse and assumed a threatening attitude.

The Political officials instructed the Military to disperse them by force; when some 12 had been killed and several wounded by rifle and machine gun fire the Bhils slowly dispersed. The ring-leaders with 900 prisoners were rounded up. The latter were liberated.

This little affair though involving no serious fighting called for some stiff forced marches through difficult jungle country. One Sepoy of the 104th Wellesley's Rifles received a bullet wound in the leg.

Major G. Bailey, 104th Wellesley's Rifles, who conducted the military operations received the commendation and congratulation of His Excellency the Commander-in-Chief in India.

3. From the 23rd to 26th of November a Double Staff Tour was conducted by Lieut.-General Sir John Eccles Nixon K. C. B., Commanding Southern Army, between the 5th (Mhow) Division and the 6th (Poona) Division. The 6th (Poona) Division concentrating at Nasik and the 5th (Mhow) Division at Malegaon.

4. During November and December, Brigade Training and Manoeuvres were held in the Nasirabad and Jhansi Brigades in the neighbourhood of Neemuch and Jhansi.

The Jubbulpur Practice Camp took place in the neighbourhood of Kusner.

5. The monsoon varied greatly in different parts of the Division Mhow received good rain and the water supply at Bircha completely filled up; this had been a source of great anxiety. Neemuch and Indore also received good rain.

Jubbulpore and Jhansi were both deficient. Nasirabad was the greatest sufferer and enquiries commenced as to the desirability of moving the garrison temporarily to other stations. Fortunately during the first week in December $4\frac{1}{2}$ inches fell, which saved the situation.

6. The 1st Battalion Northumberland Fusiliers left Mhow for England in October and the 2nd Battalion Hampshire Regiment arrived from Mauritius in December. The 2nd Battalion Royal Fusiliers left Jubbulpore for Calcutta in November and the

1st Battalion York and Lancaster Regiment arrived from Karachi in December. The 1st Battalion Royal Irish Rifles left Kamptee for Aden in December and the 2nd Battalion East Yorkshire Regiment arrived from Fyzabad in December.

BURMA DIVISION.

RIFLE MEETINGS.

The Dyer Challenge Cup: A Silver Cup valued Rs. 500 presented by Messrs. Dyer and Company and Rs. 80 to be divided among the winning team.

The competition, open to British and Volunteer Corps in Burma, was fired for by the teams representing units stationed in Rangoon on the 29th January 1913.

The competing teams were :—Rangoon Port Defence Volunteers, points scored 636, Burma Railway Volunteer Corps 544 points, and 1st Royal Munster Fusiliers 649 points, beating the Cup holders by 13 points.

The 80th Carnatic Infantry won the Southern Army Officers Rifle Cup (Rosseter) and the Burma Division, Barnett Bros, Revolver Cup for the year 1912-1913.

Two members of the Rangoon Volunteer Rifles went to Bangalore to compete in the S. I. R. A. meeting, one of them (Sgt. B. Vertannes) finished 4th in the Grand Aggregate, he was also selected as one of the team to represent the Volunteers against the Regulars, which match was won by the former.

An inter-port shoot took place between Rangoon and Ceylon which was won by Rangoon.

ATHLETIC AND BOXING MEETINGS.

Boxing Tournament by the Royal Munster Fusiliers.

The first Tournament to be held took place in the Regimental Gymnasium on the 20th February and was quite a success.

On the 20th September, a grand Naval and Military Tournament was held in the Jubilee Hall. The tournament had been arranged with the idea of entertaining the crew of H.M.S. "Swiftsure" which came into port a few days previously. The tournament was a great success in every respect, and a tremendous programme was worked through during the night without a hitch.

Paper chase runs in the Royal Munster Fusiliers.

The rainy season in Rangoon lasts from about the middle of May to the beginning of October, and during that time it is hard to find means of exercise.

In July 1912 the battalion runs were started, chiefly with the object of getting exercise and keeping the men fit. The battalion would parade about 6-30 a. m. in any kit. Two hares would lay a course of from two to three miles in length; a few minutes later word was given to go and the whole battalion would start off. These runs were at first not a success and not very much interest was shewn, it was too much of a parade, besides there is no open country near enough to Rangoon, and running chiefly along the roads in a hot and sticky atmosphere, with no object in view, did not tend to make it a pleasurable form of exercise.

In 1913 however, the 2nd Lieutenants of the Regiment very kindly decided to give a Cup for the best running company in the battalion, and points were scored as follows:—

If a hundred men started, first man in counted a hundred points, the second man 99 and so on for his company. All coming in within a certain time of the first man, varying from 6 to 4 minutes, according to the length of the run, scored points for their company.

A very keen interest was now taken in these weekly runs, and every evening one saw men training on the race-course, or running around cantonments. The Cup was finally won by "A" company with an average of 114.93. "E" Company could not be placed as they were only present for two runs.

Jiu Jitsu Classes.

During the month of August Captain McLaglan, the champion Jiu Jitsu expert, arrived in Rangoon and classes were formed to go through a short course. About 80 men of the Munster Fusiliers were put through this and some took it very well. Captain McLaglan eventually gave an exhibition by pupils and it was surprising to watch the state of perfection that they arrived at in so short a time. About 18 certificates were awarded to Non-Commissioned Officers and men who had shown proficiency.

Football.

The season lasts from June till the end of September and owing to the keenness of Burmans on Soccer, there is a match in one competition or another every day of the week during that time. It is the time when the S. W. monsoon is on and about 80 inches of rain fall in that period, so that all the games are played on very wet and heavy grounds.

The competitions that are most important from a military point of view are the "Senior League," "Second League" and the "Walter Locke Shield." The Senior League is open to the six best clubs in Rangoon and each team plays the other twice. The teams were R. G. A. (holders of the competition from the previous year), the Royal Munster Fusiliers, Rangoon Gymkhana, Rangoon College, (All Burmans), Burma Oil Company, and the Customs.

The Royal Munster Fusiliers started by losing their first two matches, being beaten by the R. G. A. and the Rangoon College, but from thereon they never lost another match and finished up two points ahead of the R. G. A., thereby winning a large handsome cup and the members of the team getting gold medals, the runners up (R. G. A.) receiving silver medals.

The Second League was won by the R. G. A. The Munsters were expected to win this competition at first, but two defeats at the end of the season brought them into second place, earning them silver medals, and the R. G. A. winning the cup and the team receiving gold medals. The Water Locke Shield is a knockout competition open to teams all over Burma and the Border Regiment (who were the holders of the Shield) sent their eleven from Maymyo, and all the Senior League teams, two Second League teams and a team of the Burma Civil Police entered.

The competition was won by the Royal Munster Fusiliers as follows:—drew a bye in the first round, defeated the Rangoon Police Club in the second, thus reaching the semi-finals when they met St. Paul's High School and defeated them—the latter having defeated the Borders previously. The final was between the Royal Munster Fusiliers and the Burma Civil Police, and ended in a draw of one goal each, but on the replay two days after the Munsters won by two goals to one.

The Shield and Gold Medals were presented to the winners by the Commissioner of Pegu. The Royal Munster Fusiliers now hold for a year this Shield and Senior League Cup.

HOCKEY.—“*The Lawford Challenge Cup.*”

This cup was played for in March and resulted in a win for the Royal Munster Fusiliers, beating the Borders (the holders) in the final by 5 goals to 2.

Miscellaneous.

During the month of September H. M. S. Swiftsure, Flagship E, I. Squadron—Admiral Peirse visited the station and stayed from the 17th to the 23rd. On the 22nd a dance was given at the Gymkhana Club in their honour and a very pleasant evening was the result. On the 23rd invitations were sent out to tea on the Flagship of which many availed themselves and dancing was kept up to the strains of an excellent string band. The Officers of the Flagship were entertained by the members of the Pegu Club on the 20th. There was also a Boxing tournament got up by the Royal Munster Fusiliers on the same date, and many of the officers came on to it afterwards. The Pagal Gymkhana arranged for the men, by the Royal Munster Fusiliers on the 22nd, unfortunately had to be put off on account of the weather. It was a great pity that the vessel had to remain at the Hastings on account of the tides.

The Indian officers of the station were shown over the Flagship.

Meiktila.

Sports of the 89th Punjabis took place on the 15th and 16th of October to celebrate the anniversary of the raising of the Regiment. The Championship of the Regiment was won by Sepoy Mangal Singh, “A” Company, a very creditable performance, as he is a young soldier of under three years service and had to compete against several redoubtable veterans. The great majority of events were won by numbers I and IV D. C. who shared the honours about equally. On the last day the officers were “At Home” to the station, thus bringing to conclusion a very successful meeting, the success of which was largely due to the efforts of the Committee consisting of Major G. A. Strahan, Captain N. M. Geoghegan, and Lieutenant W. R. James.

All Burma Rugby Football Cup.

This competition took place at Rangoon on the 2nd and 4th of October 1913. Three teams entered, viz, Border Regiment Royal Munster Fusiliers, and Rangoon Gymkhana. The Gymkhana drew a bye in the first round, which left the Borders and Munsters to compete on the 2nd October. The Borders ran out easy winners by 24 points to nil. The final between the Borders and Rangoon Gymkhana on the 4th October was stubbornly contested. The Gymkhana leading at the interval by 5 points to nil. In the second half the Borders showed their superiority and eventually ran out winners by 8 points to 5 points.

Maymyo Rugby Football Cup.

The first match of this tournament was played at Maymyo on the 14th October 1913, between the Royal Munster Fusiliers and Maymyo Gymkhana. The game was keenly contested from start to finish and resulted in a win for the Maymyo Gymkhana by 23 points to 5 points. On the 16th October the Borders and Rangoon Gymkhana met. This match was a hard fought game throughout. The forwards were kept going from start to finish. The Borders winning by 15 points to nil. The final was played on 18th October before a large crowd. The Borders forwards soon asserted their superiority in the scrums. Half time arrived with the Borders leading by 5 points to nil. Maymyo stuck to their work in the second half but could not make headway, the Borders winning by 14 points to nil.

Anniversary of the Battle of "Arroyo-dos-Molinos."

The anniversary of the Battle of Arroyo-Dos-Molinos fought on the 28th October 1811 was celebrated by the holding of a Torchlight Tattoo.

The Tattoo took place on the football and hockey grounds and the roofs of the Guard Detention Room and Quarter Master's Stores were turned into a Grand Stand.

The Tattoo commenced by the entrance of the Pipers of the 1-10th Gurkha Rifles, who marched past the Grand Stand and then into the centre of the ground, they were followed in turn by the Drums and Fifes of the Border Regiment, the

Band of the 1-10th Gurkha Rifles and the Band of the Border Regiment. When all the Bands were drawn up in the centre, the torch-bearers, 128 in number, advanced from the rear into the intervals of the Bands. The whole line then advanced towards the Grand Stand where they counter-marched. The torch-bearers then performed a number of evolutions and figures, first forming a star and then forming the word "Arroyo." A maze march was then carried out at the end of which the torch-bearers formed the figures XXIV (the old number of the Regiment). The last movement was intended to represent three figures from the Lancers. The massed Bands and torch-bearers then advanced to the Grand Stand where they played the Evening Hymn and "God Save The King." The Tattoo was witnessed by a very large number of people from Maymyo and neighbouring districts.

Detachment 1st Border Regiment.

The only item of any interest that has occurred in this detachment since 1st September 1913, has been the celebration of the 102nd anniversary of the Battle of "Arro Dos Molinos" (28th October 1911). The day was observed as a holiday and Athletic Sports were held for men of the detachment. At the same time teams representing the companies on detachment were sent up to the Headquarters at Maymyo to take part in the Regimental Assault-at-Arms and Sports likewise held to celebrate the occasion.

A Regimental Assault-at-Arms was held on the 9th, 10th and 11th of October 1913, by the 92nd Punjabis.

A Regimental Rifle Meeting was held on the 24th and 25th October 1913, open to 2nd and 3rd Class Shots only.

A Divisional Machine Gun course held at Anisakan near Maymyo from 2nd to 12th November inclusive, results of which were very satisfactory. A Fire Problem Meeting also held at Anisakan on 10th, 11th and 13th November. The problems set were practical and interesting. The Meeting was well attended and the entries for the various competitions very good. Unfortunately both the Machine Gun course and the Fire Problem Meeting were somewhat interfered with by rain.

Mandalay.

The Divisional Assault-at-Arms open to regular troops, volunteers, and military police was held at Mandalay from 12th to 15th November inclusive and was most successful in spite of the arrangements being upset by heavy rain on the first two days. The Programme was an excellent one and all events were keenly contested. A feature of this Assault-at-Arms was the large number of entries by the military Police. Captain C. E. Dease, 91st Punjabis, the Honorary Secretary, deserves great credit for its success, which was mainly due to the thoroughness of the arrangements made by him.

The 1-10th Gurkha Rifles won the Native Army and Police Football Cup in the tournament in Mandalay during August 1913. In the first round they defeated the Sappers and Miners by 2 goals to nil. In the second round they defeated the 92nd Punjabis by the same margin. In the final they met the Police Training School, and won after an excellent game by 3 goals to 1.

Royal Indian Marine.

DECEMBER 1913

Director.—Captain WALTER LUMSDEN, C.V.O., A.D.C., R.N., (ret'd). Appointed 17th March 1909 Official Residence, Marine House, Bombay. (The Director of the Royal Indian Marine advises the Government of India on all Maritime affairs.)

Deputy Director.—Captain G. S. HEWETT, R.I.M., Appointed 27th February 1910. Official Residence, Marine House, Calcutta.

Assistant Director.—Captain E. J. C. HORDERN R.I.M. Appointed 10th August 1912. Official Residence, R. I. M. Dockyard Bombay.

R. I. M. Dockyard.

BOMBAY.

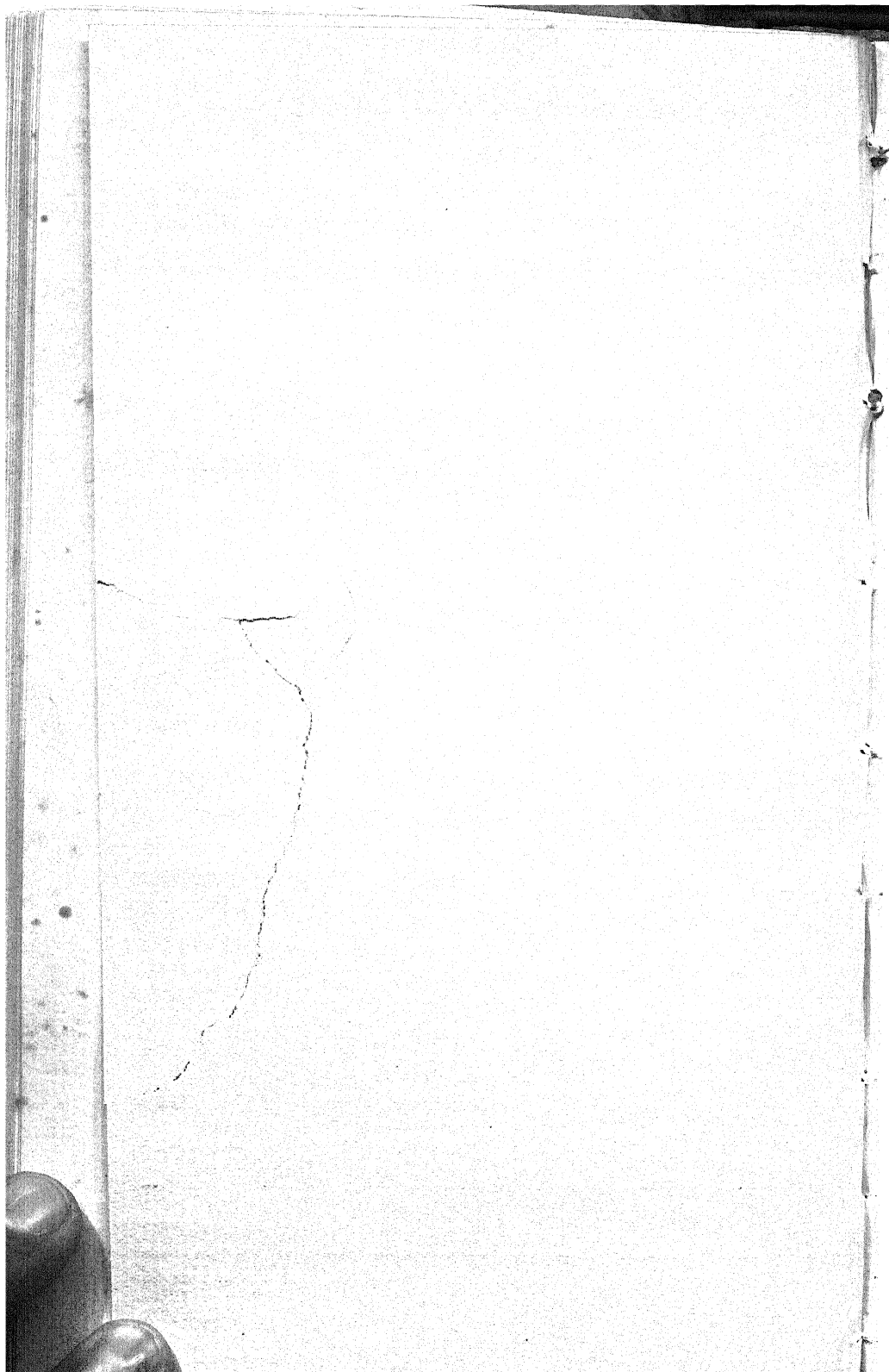
Staff Officer.—Commander E. W. HUDDLESTON, R.I.M., appointed April 13th 1911.

Inspector of Machinery.—Chief Engineer T. H. KNIGHT, R.I.M., appointed May 6th 1911.

SHIPS OF THE ROYAL INDIAN MARINE.
(IN ORDER OF THEIR SIZE.)

Name.	Class.	When built.	Commanded by.	Tonnage.	I. Horse Power.	Comple- ment.	Present Employment.
Dufferin ... Hardinge ... Northbrook ...	Troopship ... " ... " ...	1905 1900 1906	Commander E. I. Headlam ... " A. Hamilton ... " G. Gardner ...	6,315 5,467 5,039	17,191 9,366 7,249	265 265 253	Indian and Colonial Trooping 1913 Reliefs. " " Temporarily employed as Station ship, in the Andaman Islands while the building of a New ship to replace the Elphin- stone is under consideration.
Dalhousie ...	Station ship ...	1886	" A. P. Robinson ...	1,524	2,222	110	Stationed at Aden, at disposal of the Governor.
Mayo ...	Station ship ...	1889	" B. H. Jones ...	1,125	2,157	100	Tender to Light Ships and Light houses on Coast of Burma. Carries the Lieut. Governor when he makes official jour- neys by sea.
Investigator ...	Surveying ship ...	1907	" C. S. Hickman ... (Surveyor in charge Marine Survey of India)	1,014	1,500	117	Carrying out Surveys in the Mergui Arche- pelego, Burma.
Minto ...	Special Service ship	1893	" W. R. Douglas ...	960	2,025	91	Temporarily employed on Special duty under Senior Naval Officer in the Per- sian Gulf. "Mother ship" to armed launches employed in suppression of arms traffic; usual employment Station ship in Burma, Aden or Andaman Is- land.
Lawrence ...	Despatch Vessels	1886	" G. H. Finnis ... (Carries four 6 pds. Nordenfelt—Q.F. Guns.)	903	1,277	89	In Persian Gulf at disposal of British Poli- tical Resident in the Gulf, at present, as far as her Political duties allow, acting as tender to light houses and light ships in the Persian Gulf, which includes 5 lighted and 16 unlighted buoys.
Palinurus ...	Surveying ship ...	1907	" W. C. Taylor ...	296	486	53	Carrying out surveys in the Persian Gulf, necessitated by recent Commercial de- velopments.
Sladen ...	River Steamer ...	1885	Lieut. & Commander, J. F. Vibart ... (Carries Two 1 inch 4 Barrel Norden- felt and 6 Gardner 0-45 5 barrel Guns)	203	360	49	Employed on Irrawaddy and Chindwin Rivers in Burma, conveying troops, Gov- ernment stores, etc.
Bhamo ... Comet ...	River Steamer ... " " ...	1896 1884	" " C. R. Good ... " " C. G. Scott ...	172 182	250 190	47 40	
Elephanta ...	Special Service ...	1911	(Carries Two 0-45, 5 barrel, Norden- felt Guns and has Engine room, gun- platform and steering gear protected by armour plating. Gunner Richard Gain ...	280	1,000	41	Sea-going tug, attached to Bombay Dock- yard, at present chiefly employed in connection with dredging operations.

In addition to the above the R. I. M. maintains 52 Launches, for use in connection with trooping, for the requirements of the Dockyard, and for the use of the Army in India, target towing, mine laying, coast defences etc.
The Strength of the Royal Indian Marine at the present date is Executive Officers 112 Engineers Officers 73, Warrant Officers 48, Petty Officers and men 2,073 Grand total of all ranks 2,272.
The total Numbers of troops (including Officers and their families and indulgence passengers and follows. etc., carried in R. I. M. Ships during last year was 32,883. Animals 2,157, Specie Rs. 2,26,75,518 Stores 2,707 tons.



Chief Constructor.—T. AVERY, Esq., appointed December 12th 1908 (on 9 month's leave).

Constructor.—D. H. NORTH, Esq., appointed March 13th 1909.

Assistant Constructor.—MR. W. J. KENSHETT (*Sub. pro tem.*)

The main works at present in hand and completed during the last quarter consist of the building of a Light ship for the Persian Gulf, and a caisson for the Bombay Port Trust. Large structural alterations in the Dufferin, and annual alterations and defects carried out in H. M. S. Philomel and R. I. M. S. Dufferin, Hardinge, Dalhousie, Investigator, Lawrence, Palinurus, etc., the average number of workmen employed daily during the last quarter was 1846.

KIDDERPORE.

Staff Officer.—Commander J. J. W. CALDERON, R.I.M., appointed August 18th 1810.

Inspector of Machinery.—Chief Engineers, J. LUSF, R.I.M., appointed October 23rd 1911.

Constructor.—E. P. NEWNHAM, Esq., appointed December 12th 1908.

Assistant Constructor.—T. G. BAILEY, Esq., appointed December 6th 1891.

The main works at present in hand are the construction of 11 small steamers and launches, of which 5 are for the Bengal Government, 4 for Assam, 1 for Madras, and 1 for Burma. The alterations and repair works which have been carried out during the last quarter or are at present in hand, are in the Pilot steamer Fraser, the steamer Crocodile and Dredger Jack II and 14 steam launches etc., etc. The average number of workmen employed daily during the last quarter was 1985.

Both dockyards were continuously employed almost to their full strength.



NOTICES OF BOOKS.

1. *Tanjore.*

2. *Madura.*

Illustrated guides with History by Major H. A. Newell, (Higginbotham & Co.) Price 8 annas each.

These are two of a series of pocket guides of which Delhi and Agra were noticed in the October Journal. Like them they give a short account of the places of interest which should be seen by the traveller, but they are chiefly confined to temples. The writer gives a brief summary of the Indian rulers of Tanjore and Madura and extracts from Hindu Mythology of local interest. Considering the interest attached to the struggles between the English and French in these places and the early history of the Indian Army, it is a pity the author has made practically no references to either. These are still buildings and places connected with that time well worth a visit and perhaps of equal if not greater interest to the English traveller than temples. Maps would have added much to the value of both books.

Trichinopoly by Major H. A. Newell (Higginbotham) price 8 annas.

This little book hardly does justice to the places of interest to be seen at Trichinopoly and one cannot help wondering if the energetic traveller who sets out to see all there is of interest in the course of a day, as he is told he can, will succeed in seeing half, considering the climate. Like the similar works on Tanjore and Madura, the extracts from Hindu Mythology are numerous and there is no map. It is disappointing to find no mention of Clive's house which still exists, and scarcely any of the struggle between the French and English for supremacy at Trichinopoly. Extracts from the pages of Orme would have been of interest to the English reader and a brief summary of the part played by Trichinopoly in the early history of the English conquest of India should certainly be included in any account of the place.

Benares.—*The Hindus Holy City*; by Major H. A. Newell Indian Army. A complete guide, with map. Published by Higginbothams, Ltd. Madras. Price 8 annas.

This is the latest addition to the series of handbooks by Major Newell on the famous cities of India. It includes Sarnath and Ramnagar and all

places of importance, (except the Lat Bhairo, on the north edge of the city, once the scene of a big riot between Hindus and Muhammadans.) On pages 9 and 10, the details regarding Aurangzeb's Mosque are confused. In reality there are two such mosques (One, of which the minarets are conspicuous for miles, is on the river bank above the Panchganga Ghat. The other is on the site of the former Visweswar temple near Gyan Bapi, and includes in its western wall several carved stones from the older building.) No mention is made of the British connection with the place after the time of Warren Hastings, thus omitting reference to the murder of the British Resident in 1799, and to the incidents of the Mutiny, when disaster was only averted by the vigorous action of Colonel Neill. Attention might have been called to the fact that the early morning is the only time of day to see what is to many the most interesting sight of Benares, namely, the spectacle of thousands of people bathing in the river, with a background of innumerable palaces and shrines.

Lucknow.—*A short history by Major A. T. Anderson R.F.A. published by the Pioneer Press.*

In this little book the author lays no claim to originality ; nor does he attempt to draw the lessons to be learnt from the relief and siege of Lucknow. He has quoted freely from despatches and accounts written at the time, the extracts being in all cases well chosen.

Chapter I gives a short history of Lucknow from the middle of the 15th century up to the mutiny.

The remainder of the book is devoted to the mutiny period, excellent accounts being given of the defence of the Residency, the first and second reliefs, the evacuation of the Residency, Outrams defence of the Alum Bagh and of the siege.

Some useful notes about Mariaon Cantonment from an appendix and details of some of the inscriptions on tombstones and monuments in Lucknow and its vicinity are included. A map shows Lucknow of to-day with villages, etc., which existed in 1857 but have since disappeared, as well as the routes followed by Havelock and Colin Campbell. The author is to be congratulated on having given a good account in simple language, devoid of technicality, of one of the most stirring periods of our history in India.

Among other interesting facts the reader will be glad to find the true story of Hodsons death in view of the accounts which have appeared in various treatises.

A study of this book will amply repay both soldiers and civilians.

UNITED SERVICE INSTITUTION OF INDIA

APRIL 1914.

SECRETARY'S NOTES

I.—New Members.

The following members joined the Institution between the 1st January 1914 and the 15th March 1914, inclusive:—

LIFE MEMBERS.

Captain R. D. O. Hill.

Lieut. B. A. S. Brunskill.

Lieut. H. R. Talbot.

Captain H. A. Morgan.

ORDINARY MEMBERS.

Major E. H. Payne.

Lieut. Colonel W. H. Wooldridge.

Major A. D. Cox.

Lieut. G. N. Buckland.

Captain C. W. W. McLean.

The Revd H. M. Lewis.

Major C. Hodgkinson.

Major J. R. A. H. Paul.

Captain A. Thompson.

2nd Lieut. R. C. Williams.

Major H. R. Cumming.

Major R. L. McClintock.

Major H. W. Rushton.

2nd Lieut. A. F. R. Lumby.

Lieut. G. F. C. Shakespear.

Captain E. G. Fowler.

Lieut. P. J. Newton.

Major H. G. S. Corbett.

Lieut. G. D. G. Elton.

Captain E. V. Wills.

Lieut. A. B. McPherson.

Lieut. C. F. Marriott.

Captain C. W. B. Birdwood.

Captain C. D. Roe.

II.—Tactical Problems.

In order to assist officers, tactical schemes are issued by the Council of the Institution to members only, at Rs. 5 per scheme, which include criticisms and solutions by a fully qualified officer selected by the Council. 23 schemes are now available.

A number will be allotted to each member applying for papers, and solutions, must be sent under these numbers to the Secretary, Simla.

III.—Military History Papers.

(i) In order to assist officers in the study of military history, the Institution has for issue, to members only sets of questions on selected campaigns. The following papers are now available:—

(a) One paper on the Waterloo Campaign.

(b) Three papers on Callwell's Small Wars.

(c) Two papers on the strategy of the Russo-Japanese War,

(d) Three papers on the battles of the Russo-Japanese War.

III.—Continued.

- (e) Two papers on the Afghan War, 1879-80
- (f) Two papers on the Crimean War.
- (g) One paper on the Indian Mutiny.
- (h) One paper on the Shenandoah Valley Campaign, 1861-62.
- (i) One paper on the Bohemian Campaign, 1866, to the Battle of Koniggratz, inclusive.
- (j) One paper on the Jena Campaign, 1806.
- (k) Other papers on the Campaign of 1806, the Shenandoah Valley Campaign, the Bohemian Campaign 1866, and the Franco-German War 1870-71, will shortly be ready,

The charge for these papers is Rs. 5 each, which includes criticism by fully qualified officers selected by the Council.

A number will be allotted to each member applying for papers, and answers must be sent under these numbers to the Secretary, Simla.

(ii) Pamphlets dealing with the Shenandoah Valley Campaign from April 1861 to June 1862, and the Bohemian Campaign, 1866, to the battle of Koniggratz, inclusive, can be obtained from the Secretary. Price one rupee each.

IV.—Roll of Members,

Copies of the Roll of Members, corrected to 1st June 1913, are available. Price Rs. 1 per copy, per V. P. Post.

V.—Premia for Articles in the Journal.

As it does not seem to be generally known that articles are paid for, members are informed that a sum of approximately Rs. 400 is awarded for articles and reviews published in each Quarterly Journal.

VI.—Library Catalogue.

The library catalogue revised up to 1st November 1912 with correction slips up to date is available. Members requiring copies should kindly inform the Secretary. Lists of books since received are published quarterly with the Journal.

Price of catalogue Re. 1, or Re. 1-4-0 by V. P. P.

VII.—Library.

Several instances have occurred lately of members who have asked for books from the library, having refused to accept them on delivery by V. P. P. Members are therefore informed that when books asked for are out at the time of receipt of the request, they are recalled under Library Rule No. 6 a fortnight after issue and sent to them on receipt.

If no instructions are received that they will not be wanted unless received within a certain time, members will be held liable for the postage, whether they refuse them on delivery or not.

VIII.—Purchase of Books.

The United Service Institution is prepared to consider lists of books for sale from any divisional, brigade, regimental or other library.

Secretaries of libraries who have any books for sale are invited to send the list, with price asked noted against each book, to the Secretary, United Service Institution of India, Simla.

IX.—Books presented to Library.

The acknowledgments of the Council for the following presentations are hereby recorded:—

Presented by the 34th (P.A.V.O.) Poona Horse.

"The Historical Records of the 34th (Prince Albert Victor's Own) Poona Horse."

Presented by the Commandant, 3rd Sappers and Miners.

"A Short Record of the Services of the 3rd Sappers and Miners."

Presented by the 22nd Sam Browne's Cavalry (F.F.) :—

"History of the 2nd Panjab Cavalry."

X.—Gold Medal Prize Essay.

The Council have chosen as the subject for the Gold Medal Essay for 1913-14 the following:—

"The tactics of street fighting as applied to Eastern Countries."

The following are the conditions of the competition:

(1) The competition is open to all gazetted officers of the Civil Administration, the Navy, Army, and Volunteers.

(2) Essays must be printed or type-written and submitted in duplicate.

(3) When a reference is made to any work, the title of such work is to be quoted.

(4) Essays are to be *strictly anonymous*. Each must have a motto, and enclosed with the essay there should be sent a *sealed* envelope with the motto written on the outside and the name of the competitor inside.

(5) Essays will not be accepted unless received by Secretary on or before the 30th June 1914.

(6) Essays will be submitted for adjudication to referees chosen by the Council. No medal will be awarded if the Council consider that the best essay is not of a sufficient standard of excellence.

(7) The name of the successful candidate will be announced at a Council Meeting to be held in August or September 1914.

(8) All essays submitted are to become the property of the United Service Institution of India, *absolutely*, and authors will not be at liberty to make any use whatsoever of their essays without the sanction of the Council.

(9) Essays must not exceed 15 pages of the size and style of the Journal, exclusive of any appendices, tables or maps.

XI.—Northern and Southern Army Prize Essays.

The Southern Army Commander has selected the following alternative subjects for the Southern Army Prize Essay for 1914 :—

A. "A consideration of the question of recruiting in Southern India for the Indian Army ; with suggestions for improving the same, or for tapping sources not at present utilized."

B. "A consideration of the extent to which the strategical and tactical lessons of the Russo-Japanese War have been confirmed or modified by the late war in the Balkan Peninsular."

or other subjects connected with the Army. It is at present only a beginning, but it is hoped that it will in due course form a valuable addition to the Journal when the idea has assumed a definite form.

XIV.—Army Lists.

The Institution is prepared to supply to members and units typed extracts or printed facsimile pages from old Army Lists, from the date of their being raised, for all units of the Indian Army at the following rates :—

Typed copy of each original page in Army List	... Re. 1
Printed facsimile copy of each original page in Army List	... Rs. 2
Binding, if required	... extra.

XV.—Madras Army, drawings of old regimental uniforms, badges, colours.

The Institution has official designs for the dress of Cavalry, Artillery and Infantry Units of the old Madras Army for the period about 1840—50; also the sanctioned designs for the buttons and badges of each regiment and numerous sketches of the same, and of regimental colours sent up for sanction, are available.

Any unit which wishes to have their own designs may receive them on application. But, as there is only one copy of the authorised dress of each arm at that period, these can be reproduced, if several units wish to have them and agree to bear a share of the cost.

XVI.—Contributions to the Journal.

With reference to Army Regulations, India, Volume II, paragraph 483, and King's Regulations, paragraph 453, as amended by Army Order 340 of 1913, intending contributors to the Journal of the United Service Institution of India are informed that action to obtain the sanction of His Excellency the Commander-in-Chief to the publication of any article in the Journal of the United Service Institution of India will be taken by the Committee. Contributors are, therefore, responsible that the sanction of their immediate superior has been obtained, and this should be noted on all articles sent for publication. Articles need not be submitted in duplicate.

Contributors are requested to have their articles either typed or printed.

The Journal
OF THE
United Service Institution of India.

Vol. XLIII.

April 1914.

No. 195.

Gold Medal Prize Essay, 1913.

BY CAPTAIN A. H. W. ELIAS.

1st K. G. O. Gurkha Rifles.

Adjudged second in Order of Merit.

Motto : " FAC ET SPERO."

Examine the application of the main principles laid down in Field Service Regulations, I, Chapter VII (the battle), to the conditions of a campaign in a terrain similar to that of Baluchistan and Afghanistan, against an army organized on modern principles.

The subject of this essay resolves itself naturally into two main questions.

First, what are the outstanding features of the terrain from the point of view of the soldier?

As it is convenient, on account of the varying nature of terrain, to adopt some sort of general classification, this question will be treated with reference to the two extremes, (1) The Mountains, and (2) The Plains.

This classification will be adhered to throughout the essay.

The second point to be considered is, in what respects does the topography of the country affect the application of the principles laid down for our guidance in battle.

I.—The ground from a Military point of view.

(1). The Mountains.

Broadly speaking, localities of military importance are cultivated districts situated in the wider valleys or at the junction of several valleys. The roads between these important points pass over physical obstacles or through barren districts by lines of least resistance. Generally speaking, therefore, where roads do not exist the country is practically impassible to any but small bodies of troops.

The roads, such as they are, pass, as a rule along a succession of valleys and over passes in the intervening mountain chains.

Some of the valleys are wide, well watered, highly cultivated and yield sufficient supplies for a large force. Others are little more than narrow ravines and yield barely sufficient for the wants of the inhabitants.

At times some of the valleys narrow down to a gorge between inaccessible cliffs, twenty yards or less apart.

At others the surrounding hills are easily accessible and offer no serious obstacle to the free movement of troops.

In some of the wider valleys troops can move on a broad front, but, in the more fertile districts, orchards, stone walls and irrigation canals tend to restrict movement off the road.

In the narrower valleys suitable camping grounds are few and far between, and a force of any size is forced to string out its bivouacs to considerable depth.

Good water is generally plentiful in the valleys, and grazing for transport animals can usually be reckoned on for a limited time. Fuel, however, is often lacking altogether and is generally confined to small bushes growing on the hillsides.

The passes vary from an easy ascent onto an open undulating plateau, which offers no obstacle to movement off the road, to a mountain track barely possible for horses and flanked by inaccessible heights.

Though the principal passes are undoubtedly points of military importance, their value is in many instances discounted by the fact that alternative routes exist. In some cases equally good passes cross the same range, and in others, tracks and water-courses afford means of approaching and overcoming the obstacle.

The terrain off the main channels of communication is, as has already been remarked, a tangled mass of mountains, traversed only by difficult paths and tracks.

The rivers are, for the most part, only serious obstacles in their lower reaches or when they happen to be in flood. When their waters are confined by narrow gorges, however, they become typical mountain torrents.

The nature of the roads, by restricting the volume of traffic, limits the size of a force that can move concentrated, and because of the limited number of roads the difficulty of collecting and distributing supplies is great. Districts upon which a force of any size can subsist are the exception and not the rule, so that the supply difficulty, as well as the nature of the road imposes restrictions upon rate of movement.

Problems connected with movement are thus complicated by difficulties of maintenance, and before a force can be moved any distance various points may have to be considered.

Perhaps there is a river to cross, which at that particular period of the year is liable to flood. There may be no bridging material near at hand and transport difficulties may prevent the despatch of materials with the force. Or perhaps a difficult pass has to be crossed up which field guns must be hauled by hand.

Or again, the district to be passed through may be so barren that supplies have to accompany the force or be collected at certain points en route, to the detriment of secrecy.

Perhaps the route passes through a series of narrow ravines and deep gorges so that the march has to be made on a narrow front throughout.

A force beyond a certain size may therefore have to move in groups as described in Field Service Regulations, I, 23 (2) with consequent loss in readiness and fighting power.

Then again the actual state of the road has to be considered. If not possible for carts or camels, how long will it take to make it so? Whether to depart from the normal organization in order to adapt the force to existing circumstances or to expend time and labour in efforts to improve matters, is a question that may have to be decided.

The general military effect of this terrain is to make operations somewhat analogous to street fighting on a large scale.

The main streets overlooked by buildings are the valleys along which pass the principal routes; the side streets are the tracks leading from one main route to another, and the barricades are the physical obstacles which block the roads.

(2) The Plains.

Their general character is as follows:—

The country is far more open than the mountains and, although hills are by no means entirely absent, they take the form of outcrops from neighbouring main ranges and do not entirely dominate the character of the country. Movement is not confined by physical obstacles to certain well defined limits, but water is generally the deciding factor and large forces are limited in their scope of action by its presence in sufficient quantity.

Rivers are numerous and in some cases unfordable, and may therefore be regarded as obstacles, but the majority can be crossed without much difficulty except in the flood season.

Supplies are more abundant than in the mountains, and provided time is allowed for their collection, can generally be made available in sufficient quantities for a large force. Fodder for animals is, however, often a difficulty, and, as in the mountains, fuel is generally scarce.

Where it is cultivated the country is much intersected by irrigation canals and stone walls, so that, without previous preparation, it is better to keep to the road when on the march.

Away from cultivation, however, the country is generally open, with either a sandy, stony or gravelly surface and is often a level or gently undulating plain over which all three arms can move easily in any formation.

Occasionally marshy ground is met with and sometimes numerous water-courses spoil the going. Generally speaking, however, with reconnaissance and a certain amount of preparation, marches can be made on a broad front.

Where there is water there is usually plenty of room to camp, so that difficulties in keeping a force concentrated are not nearly so great as in the mountains.

On the whole, so far as the terrain itself is likely to influence military operations, the plains closely approximate the terrain of a civilized theatre of war.

The most notable difference is that movement is not practically unlimited in its scope, but is dependent upon the question of supply and water.

II. Application of principles in a mountainous country.

.....Von Clausewitz wrote that "In mountains obstacles to movement preponderate" (Book V, chapter XVII), and a reference to campaigns which have been fought in a mountainous theatre of war will prove the truth of this assertion.

I will therefore deal first with the question of movement and discuss the principles which govern the approach march towards the enemy.

(1) The Approach March.

Field Service Regulations I, Section 102 (2), gives two ways of preparing for the delivery of a decisive blow against the enemy.

The point where the blow is to be dealt may be predetermined and success "sought by means of a converging movement of separated forces, so timed as to strike the enemy's front and flank or flanks simultaneously, few, if any, reserves being retained in hand by the commander-in-chief," or it may be left open until the situation has developed by preparatory action by a part of the force only, "while the commander keeps a large reserve in his own hands with which eventually to force the decision."

The same section, paragraph (3), tells us that manœuvring power and ground are among the factors affecting the form the battle takes.

I shall accordingly discuss which of the above two forms should be applied, when fighting in the terrain under consideration—

For the sake of brevity I shall refer to a converging movement of separated forces as the "German method," and the other as "The French method."

(a) The French Method.

In this the advanced troops, subsequently re-inforced as may be necessary, find the enemy, drive in his advanced troops and by their preparatory action force him to disclose his dispositions.

Assuming that one of the enemy's flanks then becomes the main objective, the remainder of the force, pivoting on the advanced troops, is directed against the decisive point.

The advanced troops meanwhile hold the enemy and prevent his manœuvring in order to meet the new situation which thus arises.

The decisive point is selected by the light of information gained in the course of the preparatory action and the reserve is kept well in hand until it is time to deliver the decisive attack.

In order to deal effectively with the situation in this manner the general reserve must be concentrated and ready to move rapidly in any required direction.

This can be done in a terrain devoid of serious obstacles and with a large number of roads, but in the mountains the small number of suitable roads makes this, in the case of a large force, a very difficult matter.

Within the frontage of a single body of troops there will probably be available only one road to advance along and to use as a channel of supply, whilst the nature of the road will probably entail movement on a narrow front and in considerable depth. A narrow front and great depth, however, detract from the power of rapid deployment.

It is well therefore, to examine the disadvantages entailed in the French form of advance by slowness in deployment, especially when aiming a blow at one of the enemy's flanks.

During the progress of the preparatory action and the gaining of information necessary to enable the commander to form his plan of battle, the advanced troops will draw a considerable portion of the enemy's fighting strength against themselves.

It is, therefore, important that once a fight has been decided upon, pressure should be applied as soon as possible along the whole front, in order to afford the advanced troops some relief and to prevent their having to give way before superior strength.

If the advanced troops do not at least maintain their position until the commander's plan has developed, they fail in their function of holding the enemy to his ground.

Section 102 (2) tells us that "columns should not leave their march formations until the commander has formed his plan of battle or until the action of the advanced troops shows that deployment is necessary." If, therefore, the act of deployment takes too long, the advanced troops may have to sustain unsupported the whole weight of the enemy's onslaught, which may prove a heavier burden than they can bear.

If to avoid this danger the advanced troops are unduly strong at the outset, or if they are subsequently reinforced so as to reduce the number available for the decisive attack, the commander loses the power of controlling the course of events.

If, on the other hand, the commander deploys before the information at his disposal enables him to draw up a definite plan, he allows the preliminary combats to influence the subsequent course of the battle, and Section 101 (1) tells us that these preliminary combats should only be regarded as a means to an end.

A premature deployment may also lead to the committal of the bulk of the force, so that changes in accordance with subsequent events may be impossible, especially on difficult ground.

Even if the enemy does not attack the advanced troops, if the latter do not succeed in keeping him to his ground, a radical change may occur in the situation while the deployment is being carried out.

It is true that as Section 102 (2) tells us, time can be saved by moving units direct "from the line of march into their position in the deployed line." In the terrain we are considering, this will often be the only course to follow, as lack of space may preclude a formation of assembly.

It is probable also that in some cases units will not be made to close up beyond the point where roads, tracks or nullahs, as the cases may be, branch off in likely directions. This will tend to reduce the time occupied in deploying.

The act of pivoting on the advanced troops, however, entails movement at an angle to the original line of advance on the part of the general reserve.

Generally speaking movement is only easy in the valleys or on the lower slopes of the hills, so that to move in a direction oblique to the original line of advance may mean having to cross difficult ground.

Deployment and the development of the attack, if against one of the enemy's flanks, will therefore generally be slow, unless the surrounding country happens to be exceptionally easy for troops to move over.

If, however, the commander intends to make a decisive attack against that portion of the enemy's line, towards which the main route followed directly leads, with a view to breaking his army in two, deployment may be a somewhat simpler operation.

Instead of pivoting on the advanced troops, while they hold the enemy to his ground, the general reserve will move directly to their support. The capacity of the avenues of approach will then decide what number of troops can be got to the front within a certain time, but their influence upon the course of events will depend largely upon whether there is space available for their deployment.

If there is not, then the leading troops must stake out and hold sufficient space for the deployment of the remainder, in the same way as Marshal Lannes did at Jena. In these circumstances the advanced troops can be in greater strength than is advisable when the general reserve comes into action at a distance from where collision with the enemy first takes place.

If this course is adopted, also, there need be no awaiting events on the part of the commander, but having selected the decisive point at the outset, troops can be disposed in accordance with this plan from the very beginning.

From the point of view of the approach march, therefore, to aim at cutting the enemy's forces in two appears to be more suited to the mountains than an eccentric movement against his flank.

The factors which affect the adoption of the French method are therefore briefly as follows:—

(1) Difficulties in the movement and maintenance of a force on a single road and the consequent limitations to the size of such a force.

- (2) The difficulty of lateral movement off the line of march.
- (3) The slowness of deployment which may expose the leading troops to defeat in detail before support can be given them.
- (4) Direct attack with the object of cutting the enemy's line in two appears more suitable than movements outwards from the line of march against the enemy's flank or flanks.

(b) The German Method.

In this the different columns start from different points but each moves by a road which leads towards where the enemy is most likely to be found.

Under certain circumstances this may have an element of danger, in that, should the enemy not be found where he is expected, the force is committed to a false move.

In this terrain, however, movements are limited to certain lines, and an enemy's whereabouts can be foretold with certainty.

One great advantage of this course is that the army as a whole enjoys the administrative convenience of dispersal up to the actual meeting with the enemy, the object being to bring the columns upon the enemy simultaneously.

In the mountains, therefore, where the problems connected with movement and maintenance are such dominant factors, any expedient that reduces the size of the columns has much to recommend it.

There are still, nevertheless, certain disadvantages and dangers to be considered.

The enemy may fall upon one of the columns with a superior force while the advance of the others is held up.

In the mountains especially, where a few men posted so as to command narrow approaches can delay the advance of a relatively large force, there seems all the more chance of this being successfully done. We must remember however, that small detached bodies can delay but they cannot stop an active and determined enemy.

In the mountains, if one way is impossible there is usually some other way round. Also, troops which have been given a defensive part of this nature to play, are likely to realise fully the danger of being cut off on broken and intricate ground, a fact which will tend to detract from their delaying effect.

Then again there is the difficulty of ensuring co-operation between the various columns. This will no doubt be increased in a mountainous terrain, where so many elements of uncertainty affect movement, but visual signalling, aircraft and other means of communication should ensure the columns acting in concert.

Another possible disadvantage is that once the composition of the various columns has been fixed, and the advance begun, changes will be difficult owing to the general scarcity of lateral communications. The enemy may thus learn early the strength of each column and arrange his dispositions accordingly.

If, however, every column acts with vigour and shows a proper offensive spirit, the concentration of the enemy against one column should, by a corresponding reduction in the opposition against others, enable headway to be made by the force as a whole.

To turn to the advantages of the German method, the difficulty of striking at an enemy's flank from a central position when formed in depth was discussed under the French method.

The German method avoids these difficulties, yet enables the full available strength to be utilized.

The enemy is in all probability not strong everywhere, consequently if the various columns apply "gradually increasing pressure at all points" one of them will probably strike a weak point in his armour. Once the enemy's front has been pierced or his rear is threatened his whole line must give way.

Owing to the difficult country off the main roads, the possibility of closing in and surrounding the column that has succeeded in forcing its way through, is remote, especially if the other columns fulfill their part of "attracting the enemy's attention and holding him to the ground."

One of the elements of successful handling of troops when on the interior line, is the power of rapidly transferring troops from one point to another.

This is difficult to do in the mountains.

The German method thus appears to be the better suited to a mountainous terrain and will probably be the one adopted by both forces. I will accordingly examine how the principles involved can best be applied.

If we imagine two forces to be street fighting along several parallel streets, the general result will depend upon the aggregate of successes gained. If the advance in one street is checked by a barricade or for other reasons, success in a neighbouring street will turn the barricade and in any case will relieve the pressure; and so on, until the whole of one force has eventually to give way.

Von Clausewitz wrote that in a mountainous terrain there is "a tendency to lower the influence of the supreme command, increasing in like manner the independent action of subordinates."

An essential element in success is therefore that each column acts with the greatest vigour, as any relaxation of effort on the part of one column may enable the enemy to detach troops in order to increase the opposition against one of the others.

Whenever the enemy is met, each column must attract the full attention of the hostile troops in its own front, hold them to their ground and wear down their power of resistance, so that victory will be gained by the "culmination of gradually increasing pressure relentlessly applied to the enemy at all points, from the moment when contact with him is first obtained."

It is therefore more important in the mountains than elsewhere that all commanders "act with energy, perseverance and resolution."

(2.) The Principles of Attack and Defence in a mountainous country.

(a.) The Attack.

We are told in Field Service Regulations, Section 102, (3) that it is usually wiser to direct the decisive blow against the enemy's flank or flanks. Unless, however, some of the available avenues of approach either lead round the enemy's position, or direct to one of his flanks, the attempt to do so will entail leaving the main routes and committing a portion of the force to difficult country.

The operation of breaking through the enemy's line is, on the other hand, attended by fewer dangers in a mountainous terrain than elsewhere, owing to the difficulty of closing in and surrounding the body that has succeeded in penetrating to within the main position. Also, as movement is so tied down to certain

definite lines and as each force operates along a continuation of the other's line of advance, it is probable that the issue will be decided more by fighting than by manoeuvring, each force trying to find and break through a joint in the other's armour. Each force will probably engage the enemy along his whole front, in greatest strength against the most important point, not so much with the object of overwhelming him everywhere, as with the object of beating him somewhere.

A number of definite objectives are thus allotted to different bodies of troops, each body assigned to a distinct tactical operation under one commander.

In this manner, also, is the principle applied of "gradually increasing pressure relentlessly applied to the enemy at all points."

A most important factor is co-operation between the separated columns, and co-operation is so largely dependent upon the service of intelligence and inter-communication that "systematic arrangements for obtaining, sifting and transmitting information" must be made.

One expedient in the hills is for parties to be sent up commanding heights from which a good view of the surrounding country can be obtained. Signallers should be included, so that these heights, besides serving the acquisition of information, can be used as visual signalling stations, from which information can be sent to the various columns. These points are also useful as transmitting stations.

Parties should consist of mounted men if the commanding points are at a distance, the men dismounting and going on foot when the ground becomes too difficult for horses.

The principle of supporting the advance by covering fire of troops in rear is especially important in a mountainous terrain, as sometimes, owing to the shape of the ground, the enemy's position is not visible from the point of view of the advancing troops.

From the foot of a high hill the attackers may not be able to bring fire to bear upon the defenders posted in rear of the forward crest, consequently fire superiority must be gained through the agency of the troops detailed to give covering fire.

When the assault is being delivered these troops must ensure that the enemy is forced to keep behind cover, in order that the assaulting troops may get to within charging distance with a minimum of loss.

In the same way the covering troops must be prepared to deal with counter-attacks on the part of the defenders. The covering troops are more likely to be aware of their inception than those actually advancing, who may at that moment happen to be on low ground from which little can be seen of the enemy.

Thus fire and movement need to be very carefully adjusted between the troops giving covering fire and those advancing to the assault.

Covering fire is made easier in the hills by the fact that troops on commanding ground have a good view, that there is little danger of firing into their own troops and that fire can be kept up during the assault until the last minute.

For the purpose of giving support to the assault, great use can generally be made of machine guns, both to give covering fire and to check attempted counter-attacks.

The counter-attack, like the attack, will probably be tied to certain well defined lines which alone favour rapid movement. In some cases, also, the front of the counter-attack will perforce be narrow. Machine guns should then be posted so as to command the issues of which the counter-attack is bound to make use.

In addition to this, opportunities for concealed advance should be made use of by machine guns in the hills, so that their fire can come as a surprise from comparatively close range.

For the assault, the only bodies likely to know when the time is ripe for its delivery will be those covering the advance with their fire and those nearest the enemy's position. The covering troops obviously cannot leave their positions at this moment, so that the impulse for the assault will generally come from the most advanced troops. Use must, however, be made of the communication service to ensure that troops in rear press on and give the assault additional impetus and support.

As regards the part the artillery can play in the fight, the positions of the field artillery will depend to a great extent upon the ground and the difficulty and time required in bringing the guns into action.

Positions for field guns will generally entail time for their occupation, as well as some preparation, so that when guns have been brought into position and are ready to open fire, they probably cannot be moved forward to a fresh position and thence support the advance, without some loss of time.

The gun positions must therefore be very carefully selected in the first instance and chosen with a view to supporting the advance and checking any counter-attacks the enemy may attempt. The necessity for keeping up the fire of the guns until the final stage of the assault must also be remembered.

Guns should therefore be placed as far to the front as is compatible with safety.

In order to cover the movements of the attacking troops the artillery must aim at making untenable those of the enemy's works that are sited low with a view to commanding the approaches. It should also aim at keeping the enemy from establishing himself on the forward slopes of the position for this purpose.

If the artillery succeeds in doing this, and the troops giving covering fire do likewise, the assaulting troops should be able to get close up to the enemy's main position without suffering heavy loss from his fire.

Artillery should be specially on the look out for portions of the enemy's line that can be enfiladed from the point of view of their own position, as irregularities in the ground will probably lead to irregularities in the enemy's line, and thus provide a number of salients.

Mountain guns should be able to follow the firing line and give the attacking troops close support. They should also be able to move under cover to points whence they can, by their fire assist in the pursuit of the enemy.

Cavalry will be able to co-operate with the other arms more by dismounted than by mounted action, as the ground will generally not be suited to the latter.

Full use can, however, be made of their mobility, which will enable them to reach distant points with greater rapidity than infantry.

They can thus in the preliminary stages of the fight do much in the way of reconnaissance. By holding defiles and denying to the enemy's advanced troops access to points from which the attackers' movements can be seen, they can also form a very effective screen.

Their use in occupying commanding heights in order to see the movements of the enemy has already been mentioned.

During the attack they can co-operate by seizing points beyond the limits of the enemy's flanks and so turn his position. They can block defiles and passes in order to prevent wide detours being made against the attacker's flanks, and, in the pursuit of the enemy, they can, by blocking means of escape, keep the enemy to certain lines and thus prevent his evading the pursuers.

(b) The Defence.

The conditions that make the German form of advance preferable to the French, will tend to influence the form of the counter-attack in the same direction.

In order to make the counter-attack strong and sudden, and to ensure that its full power is speedily developed, it must start from different points simultaneously, and, as in the attack, engage the enemy in the most direct manner possible, rather than swing outwards from the position and endeavour to turn one of his flanks.

The theatre of war will tend to narrow the possible lines of operation. Time should consequently be available for preparation; and as the natural lie of the ground is favourable to defence, should be devoted to doing everything possible for the furtherance of the counter-attack on these lines.

As the greater difficulties to be overcome by both the attack and counter-attack will be of the nature of obstacles to movement, time at the disposal of the defence should be utilized in preparing the ground so as to assist movement in every way possible.

As the enemy's line of attack can be foreseen, the direction of the counter-attack can also be foreseen to a great extent, and by making all possible preparations for its delivery, it should start with much in its favour.

The more difficult the ground the greater is the advantage of knowing it thoroughly, so that full use can be made of its capacity for increasing the difficulties of the enemy. A thorough reconnaissance must therefore be made by the defenders.

As regards the position itself, the pivot points will usually be on commanding ground, so that movement, easier on lower levels, can be supported by covering fire.

Von Clausewitz wrote (Book V Chapter XVII) that in a mountainous country "one point commands another," a fact which should be made full use of by the defence, provided the details of the ground are properly studied.

"Command" in this sense does not necessarily mean "above."

To reach the position the enemy will probably have to pass places of the nature of a defile. He should therefore be met with a heavy fire when emerging from such points. The enemy's advance will also probably lead him over ridges and crest lines, so that excellent targets should be presented to troops suitably posted, and the enemy's further progress stopped.

In siting trenches they must therefore be arranged not only to give each other mutual support in a horizontal sense, by commanding each others respective dead ground, but in a vertical sense as well.

If this is done a low sited trench commanding low lying approaches to the position can be occupied, provided supporting trenches are sited so as to deny ground commanding the lower ones to bodies of the enemy. Wherever, therefore, there is ground that the enemy is likely to occupy and which would otherwise be to his advantage to hold, it should be made into a Spion Kop for him.

The more irregular the front of the position, the more liable is it to be enfiladed and portions of it isolated. The principle that salients and advanced posts should not be held with the sole object of denying ground to the enemy, should therefore be almost invariably applied in a mountainous terrain.

It may not therefore be possible to deny certain ground to the enemy, but if that is the case, arrangements must be made that his onward advance is not possible without heavy loss.

The factors governing the co-operation of the three arms in the attack will very similarly affect the defence.

(c) General remarks on fighting in a mountainous terrain. We are told in Field Service Regulations that decisive success may sometimes be gained with less loss and more certainty by awaiting an attack, especially if we can choose and deliberately occupy a position which the enemy must attack, provided of course that we do not abandon the offensive spirit.

We are also told that where the nature of the theatre of war so narrows the possible lines of operation, the enemy's movement can be foretold within definite limits, and positions may be prepared long in advance. Consequently, in the hills, if we select a position which the enemy must attack before he can advance further, we are well within the letter of the law in so doing.

I will, however, discuss whether it is better to allow the enemy to attack first or whether it is better to attack him at the first opportunity.

Napoleon said, (Maxim XIV), "Among mountains a great number of positions are always to be found very strong in themselves and which it is dangerous to attack. In mountain warfare the assailant has always the disadvantage."

It is true that the force that awaits attack can improve its communications to the selected position, so that difficulties of maintenance can be simplified and the inherent difficulties of movement avoided to a great extent. The force can also be kept more concentrated owing to administrative difficulties being reduced by improved communications.

As regard the ground to be held, a good field of fire will generally be available owing to the absence of vegetation, and supports and local reserves can remain close behind the firing line owing to the steepness of the slopes of the hills.

The enemy's difficulties can be increased by small bodies of troops sent forward to hold defiles and passes which bar his advance. The difficulty of the ground, also, should increase the chances of his mistiming his attacks and so exposing isolated bodies to counter-attack.

When the attacker has expended his strength in making unsuccessful attempts upon the position, and when his transport and supply services have been brought near to breaking point, a vigorous counter-attack, which breaks through his line, combined perhaps with threats against his main artery should cause him to give way.

A vigorous pursuit, with cavalry holding important defiles in his rear, should then lead to his complete overthrow.

To turn to the other aspect of the question, we are told in Field Service Regulations that "the defensive implies loss of initiative for the time being—the eventual assumption of the offensive demands very high qualities of skill and resolution in the commander."

The difficulties that are expected to beset the attack will be experienced in a similar manner though in a less degree by the counter-attack.

The opening words of Chapter VII tell us that a vigorous offensive is the only way to success, and later on we are told that time is an important factor in delivering the counter-attack. Thus unless the counter-attack is delivered with vigour and at the right moment, its success is not assured.

It is possible, moreover, that the very fact of the defence seemingly having so much in its favour will lead to a certain amount of hesitancy in changing from one to the other, and more than ordinary resolution will be necessary to do so at the right moment.

The difficulty of the ground may lead to a false sense of security on the part of the defenders, who may thus be inclined to neglect ground they consider impossible.

Nothing is impossible in war, however, and the intricacies of the ground may enable the force enjoying the initiative to mystify and mislead its adversary and thus prepare the way to victory.

It is likely, therefore, that the moral advantages of the offensive are increased rather than diminished in a mountainous terrain.

Up to now I have treated the subject from the point of view of attack and defence only.

As regards the subsidiary elements of the battle, we are told in Field Service Regulations, Section III. (2), that in the encounter battle "in order to obtain the initiative it is essential to deploy before the enemy can do so", and in (4); "rapidity of action is of the utmost importance."

The difficulty of applying these principles to a force moving concentrated along one line in a mountainous terrain, was pointed out in the discussion on the approach march, so that an additional consideration in favour of the German method is here presented.

The commander will not be able to modify the direction of the decisive blow by the light of information gained during the preliminary stages of the encounter.

He must act therefore on the principles already advocated, and remember that the best can sometimes be the enemy of the good and that in war, it does not matter so much what is done, as long as what is undertaken is carried out with energy and unity.

He should therefore not wait on the course of events but attack the enemy as directly, as rapidly, and in as fully developed strength as possible.

For the parallel pursuit the German method is more suited than the other, as columns can carry it out by simply continuing on their respective lines of advance.

In retreat the important principle is to avoid blocking roads which lead to the rear. The smaller the size of the force making use of one road, therefore, the less chance there is of this occurring. The wider the extent of the front also, the wider must the detour be to turn the flanks and to intercept the retreat from the rear.

The nature of the ground in a mountainous theatre of war is favourable to the conduct of delaying action, so that even if mistakes in co-operation between different columns involve the isolation and exposure of one, to superior forces of the enemy, disaster need not be the inevitable result.

From many points of view therefore, the principle of different columns under their own leaders, acting separately but in concert, appears the most suited to operations in a mountainous terrain.

An important factor in warfare of this nature is sure and rapid communication between the different columns, and for this purpose visual signalling, wireless telegraphy, aircraft and telephones will be made use of according to circumstances. The air currents in the hills tend to detract from the reliance that can be placed upon aircraft in their present state of development, and the ground may often be unsuited to the laying of telephones. The methods therefore which are probably the most suitable for the hills are visual signalling and wireless telegraphy.

Troops fighting in the hills will sometimes be so placed that for perhaps several days at a time, no transport can reach them, and they will consequently be without supplies.

When this occurs arrangements will have to be made for their relief by other troops.

III. *Application of principles in the plains.*

The conditions which govern the application of principles will, in the more open terrain referred to as the "plains," closely approximate those of a civilized theatre of war.

Movement will, on the whole, probably be easier so far as physical obstacles are concerned, but the chief difficulties will still be connected with the question of maintenance, with sometimes the scarcity of water as an additional factor in the problem.

These difficulties, and the fact that, owing to scarcity of roads, a large force can often only move along a certain definite line, will tend to narrow down its scope to certain well defined limits.

Consequently, when awaiting the enemy's attack in the first instance, there will often be little uncertainty as to the direction of the enemy's advance.

This fact and the advantages it brings from the point of view of maintenance, are points in favour of deferring the offensive, but the moral disadvantages are in no sense diminished.

Should it be decided to await the enemy's attack, the force temporarily on the defensive should seek to take up a position behind an area of difficult country, which will impose upon the enemy a division of his force.

As the enemy emerges from this defile, his formation will probably be somewhat scattered, so that the different portions of his force should be exposed to defeat in detail, provided the defenders are able to move rapidly and concentrated over easier ground.

The other alternative is to take up a position on an obstacle, provided it is naturally so strong that the enemy is forced to attempt a detour and thus expose his communications.

The ideal in such a case would be a formidable natural obstacle, such as a range of hills, with easy open ground in rear and on the flanks, for the preparation and delivery of the counter-attack.

The conception of a pivot for the counter-attack can thus be followed, and the open ground should enable it to be launched suddenly and in full strength, wherever and whenever the events of the fight indicate.

With regard to the attack, from a purely tactical point of view, the relative advantages and disadvantages inherent in the French and German methods will be very much the same as in a civilized theatre of war, but in the terrain now being discussed, administrative considerations may render one more suited than the other.

If there are several alternative routes available, neither of which are suited for the movement and maintenance of a large force, the approach march would be more conveniently carried out according to the German method.

If, on the other hand, there is only one good road with a traffic capacity equal to the requirements of the whole force, then the French method is the better of the two, especially if, as is sometimes the case, the country off the road admits of troops marching on a broad front.

When advancing by the French method and a battle takes place, either an encounter battle or a deliberate attack, the necessity of engaging the enemy effectively along his whole front, especially during the development of the decisive attack, will be emphasized in very open country.

The general reserve will have to execute a flank march to reach one of the enemy's flanks, and unless the enemy is effective-

ly held along his whole front, the decisive attack will not be screened and the attacker's communications may be exposed.

The cavalry will probably have great opportunities in a terrain such as we are now considering, the only limitations to the full development of its power being the possible scarcity of water in certain parts, and the absence of opportunities for concealed approach.

Aircraft will also be provided with opportunities for reconnaissance owing to the absence of cover.

For this reason, and because of the freedom from obstacles, night operations will probably be a feature of warfare in such a terrain.

IV.—General conclusions.

Generally speaking, in a theatre of war similar to Afghanistan and Baluchistan, the application of the principles governing the conduct of war will be dominated to a very considerable extent by physical obstacles and by difficulties of supply and transport.

Consequently the belligerent that has succeeded in reducing these difficulties to the lowest possible minimum, either by the expenditure of labour in improving roads, or by the introduction of railways or other mechanical means of transport will have a great advantage over his adversary.

In the hills, success will hinge principally on co-ordinated action and mutual co-operation by different groups acting independently, as well as by skill in adapting difficulties of ground to their own advantage and confusion of the enemy, and on the rapidity with which the full power of the whole force can be developed.

In the plains, rapid manœuvring and prompt profiting of any mistakes the enemy may make will be a powerful factor in gaining victories.

In neither the hills nor the plains should questions of movement, or supply, or difficulties of ground delude the commander into forming an exaggerated estimate of the advantages of the defensive, nor an under-estimate of the evils attending the surrender of the initiative and a weakening of the offensive spirit.

An Introduction to the Study of the War in the Balkan Peninsular, 1912,

*A lecture delivered at Simla, on 24th September 1913, by Captain
M. Crofton, Royal Horse Artillery.*

MAJOR-GENERAL AYLMER.—I would like to introduce to you Captain Crofton of the R. H. A. who has very kindly consented to give us a lecture on the subject of an introduction to the study of the War in the Balkan Peninsular, 1912.

Captain Crofton,—I have divided my subject in 4 sub-heads as follows:—

- (1) The character of the nations fighting and their preparations for war.
- (2) The topography of the country.
- (3) The strategy of the war.
- (4) The causes of the war and the lessons it has to teach us.

Then I have tried to trace very briefly the course of events since the Allies fell out among themselves and how the policy of the rest of Europe may be affected thereby, just touching on history, where it is necessary, in order to make the events of to-day clear. In the time at my disposal it is quite impossible to go at all into detail, I have therefore had printed and put in your seats a table of the comparative strengths and armaments of the belligerents (Appendix I.) and a list of books and magazine articles which may be of interest to those who wish to study the subject further. (Appendix II.)

TURKEY.

The system of training in the army is that of the German training manuals and had been carried out by Field Marshal Von der Goltz and a staff of German officers. Since the Young Turks came into power in 1908 they have endeavoured to educate the Turkish officers in the details of their profession, but

the war came before they were in a fit state to compare with the officers of other nations. They, moreover, made the mistake of not realising the truth of Burke's saying, "To innovate is not to reform."

What they did was entirely of a destructive nature—such as dismissing old ranker junior officers, and the constructive improvements had not yet had time to come into force. Further the re-organisation began at the bottom instead of the top, where it should have remade the War Office and General Staff. Also the officers as a result of the revolution had taken to dabbling in politics and thought that the best ladder to military success was through political place seeking. In addition to all this, an effort was made to imbue the Turkish private with a love of country—this was a mistake, because he usually came from Asia and had no love for Turkey in Europe, whereas in olden days he was inspired by the thought that he was fighting for Islam against the infidel, and then his whole soul was in the fight and death was his highest possible reward.

In addition Christians were enlisted in the Turkish army. This had the disadvantage that when the Turks came to fight against Christian nations, their Christian troops were, to say the least of it, unreliable. On the other hand, the system of having none but Mahommedans in the army was gradually becoming a danger to Turkey as a Mahommedan State, because all the losses in war were being borne by the Mahommedan population, and consequently the danger was arising that the Christians might become a preponderating power in the land.

The Turks were undoubtedly taken by surprise at the beginning of the war and "rushed" before they had recovered from the strain of the Tripoli campaign. The generals and staff were unknown to the troops. Mamoud Muktear for instance was taken from being Minister of Marine and sent to command the 3rd Army which was so badly beaten at Kirk Kilisse.

The Army of Thrace was very largely composed of 2nd line troops (or Redifs). They had few officers (5 to a battalion of 600 was a fair average) and they were given boots when they were used to sandals, therefore they could not march. They knew

nothing about their arms or equipment. Their idea of night outposts was very like that of the chowkidar of this country. Naturally, when the test came and they were asked to fight without food, they failed. The number of Nizam or 1st line troops was insufficient to stem the tide and the army of Thrace was thrust back to the Tchatalja lines. It was not however a rout, but was due to the fact that owing to bad administration and staff work, no food or ammunition came up. When they got there a further stiffening of Nizam troops came up from Anatolia and also the food and ammunition supply became regular, and the story became a very different one.

One of the most notable features is the extraordinary resuscitation of Turkey in July this year. The advance from Tchatalja to Adrianople was marked by organisation and rapidity in very marked contrast to the disastrous handling of 1912. This I particularly wish to emphasise was done with 1st line troops and trained staffs. Before the war the artillery was looked on as the best arm of the three, the cavalry being the worst. The army as a whole wanted experience in working in large numbers and there was a lack of co-operation. Means of communication were deficient and the auxiliary services were in no way organised according to modern requirements.

Military qualities.—The Turkish soldier is physically well developed, a good though slow marcher, fearless and possesses an instinct of duty and subordination to authority which is engrained in him by his religion. He is lacking in smartness, initiative and dash and is at his best behind entrenchments. In this respect Chasseur in his article* in Blackwood April 1913, says that the siting of the Turkish entrenchments was such that the Bulgarians massed for the attack within 600 yards of them under cover in dead ground. While doing this the Bulgarian had no look outs and consequently deserved to have been annihilated, but the Turks could make no counter attack, because they had made a wire entanglement all round, within 100 yards of their trenches and without any exits.

Chasseur says further that when the official history of the war comes to be written, the chief lesson we shall learn from Turks and Bulgarians alike will be, "how not to do it."

* "*The Siege of Adrianople.*"

The Turks did practically no work at their trenches at Adrianople and provided no head cover, consequently they suffered heavily from Bulgarian field artillery fire. At Tchatalja, on the other hand they entrenched heavily and made good communications. The results of the Bulgarian attacks on the two places goes far to prove the value of and necessity for thorough work in preparing a defensive position.

I think it has been rather the fashion to say that the Bulgarian attacks on Tchatalja were half hearted. This is a mistake. Some of the hardest fighting of the war took place there. Near Lake Derkos on the east owing to bad outpost work, first a complete regiment of Turks and then one of Bulgarians was wiped out.

There is a very interesting account of the work of the Turkish cavalry given in Lionel James' book. They lived on bread and water, their endurance was stupendous and being neither meat eaters or wine drinkers their wounds healed very rapidly. Their work appears to have been excellent, but they were bad horse-masters and consequently their numbers which were absurdly small to begin with became so reduced in less than a month as to make them practically a negligible quantity.

They were very bitter against their German instructors. They said that the German ideas were no good for cavalry where you need finesse and dash, not weighty masses. Their ideal was the French cavalry and its system of training. They had only one horse battery.

The terrain of Thrace is ideal for cavalry and horse artillery; great rolling downs like the Orange River Colony with ridges about 3000 yards apart.

Aeronautics.—The Turks had an aerial fleet of 10 at the beginning of the war. They did practically nothing however, owing to their having been allowed to get into such a bad state of repair as to be useless. In February however a Turkish officer made a flight of 275 miles in 4 hours at a height of from 2500 to 8000 feet, all over the Bulgarian position opposite the Tchatalja Lines and undoubtedly the information he collected was of great value to Izzat Pasha in resisting the last Bulgarian attack.

Navy.—Turkey has a small navy consisting altogether of 30 vessels of sorts. Turkey looked to it to maintain command of the Ægean Sea to enable her to transport troops by sea to Macedonia. She would also look to it for protection should she decide to attack Bulgaria's eastern flanks. The navy failed miserably in its duty as regards the Ægean, and the Greek fleet was so far superior that Turkey was unable to reinforce her armies in the west by sea from Asia Minor at any period. This very largely influenced the course of the war.

On the whole I think there are many lessons that we have to learn from Turkey. The chief being the uselessness of 2nd line troops, the necessity for efficient administration services, the importance of generals and staffs working with troops in peace time so that they may know each other in war, the danger of being under-officered and the need of a large force of cavalry and horse artillery.

BULGARIA.

The system of training is based on the French model, modified by the lessons learnt from the Russo-Japanese war. Everything is done to encourage initiative, and in the short time that the soldier is actually with the colours, he puts in much hard work. The best arm is the infantry, the cavalry being the worst. The officers are well trained and used to responsibility.

In the *Contemporary Magazine* for August 1913 is a very interesting article containing a translation of the Bulgarian orders for their attack on their late allies.

This is interesting for two reasons :—

(1) It goes to prove whose was the responsibility for the outbreak of hostilities among the late allies. The original was found by the Greeks on a Bulgarian officers' dead body.

(2). It shows the form of the orders issued by the Bulgarian General Staff. Except that it is somewhat verbose, it is practically the same as that in use in our army.

Sir John French made this subject the basis of his address to the Sandhurst cadets on December 18th 1912. He himself travelled through the Balkans some years ago and was greatly struck by the thoroughness of the training and the keenness displayed by all ranks for the war which they knew was to come soon.

Military Qualities.—The Bulgarians are a patriotic and war-like race, well disciplined, intelligent and innured to hardships. *The Times* special correspondent writing from Sofia on October 8th 1912 said :—

“ The impression given by the mobilised units which left Sofia yesterday by road, was, on the whole, favourable. The infantry are sturdy and well set up, and their march discipline is good. Some of the men seemed too old to stand the rigours of a winter campaign, but the spirit of all was splendid. I am informed that the staff estimate that the infantry can maintain a continuous daily march of 20 miles.

“ The artillery did not give such a good impression as the infantry. The average height of the horses is about 13 hands. The horses in Eastern Bulgaria are, however, better. In spite of this however the work done by the artillery has been little short of marvellous and it was largely due to their superiority over the Turkish artillery at the battle of Lule Burgas that the Bulgarians gained such a brilliant victory. Among other things they never ran out of ammunition, while after the first day the Turks had none. Their system of ammunition supply should prove of very great interest and use to us when it is known. At present there is no information to hand on this subject. The weakest link in the military chain appears to be the transport. The carts in use largely resemble the Indian bullock cart, but are not so strong. Bullocks and buffaloes are used for draught.”

With regard to the Bulgarian infantry Chasseur says that their elan was such as to be almost neurotic and consequently that all discipline and control in the firing line was lost and that therefore their losses were unnecessarily heavy. This throwing away of life, he says, so reduced the fighting strength of the army as to delay its utility for further operations.

Wagner in his book “ With the Victorious Bulgarians ” is also of the opinion that the dash of the Bulgarian infantry, is such that they get out of hand and attack in no sort of tactical formation—just a mob of frenzied fanatics, shouting, charging and “ with the knife.”

The Times Special Correspondent on the other hand says that the stories about the Bulgarian elan are all bunkum and

that the Bulgarian soldier is just as lethargic as the Turk and only beat him because he was better led and better fed. Which is true, I do not know, but the question that strikes me as being of the greatest interest is whether the rushing forward of large masses of men to the final assault—the Bulgarians are reported to have done it for the last 400 yards to 600 yards—is good or bad, and whether it would be possible against good troops who could shoot.

The Bulgarian attacks throughout appeared to have been badly designed and badly carried out. The artillery support seems to have been good, though carried out at too long ranges (about 6000 yards) and the fuzes are reported to have been too short.

Chasseur says that the wonder is not, how the Bulgarians managed to capture Adrianople, but rather, how they failed to do so within the first 10 days. The Turkish administration within the lines was so bad that although there was food and ammunition for 200,000 men for a year, and the garrison and inhabitants together only came to 130,000, within one month the outposts were starving.

The Bulgarian tactical handling appears to have been bad and consequently when they ran up against Nizam troops who had been fed and entrenched at Tchatalja, their attacks faded away: taking into consideration these facts and the utter and absolute prostration of Bulgaria after her successful campaign against Turkey, the more recent development of her entire defeat by Greece and Servia is not to be so greatly wondered at, as from a casual surface glance would appear to be the case. During the war with Turkey she lost in actual killed and died of disease 10 per cent. of her Army *i.e.*, over 2 per cent. of her total male population.

“A Sportman's visit to Bulgaria” in the *National Review* July 1913 is well worth reading; he describes the roads as being villainous whether wet or dry—the climate in the autumn, fine and bracing, but wet, thundery and cold in winter. The people are of fine physique and simple superstitious sons of the soil. They shoot rockets at the clouds to make rain and avert lightning and earthquakes from which they suffer greatly.

All trading is done by Armenians, Gipsies and Jews—the latter call themselves Spaniards and talk that language. The shooting both in the plains and Rhodope Mountains is only very moderate. Horses are almost non-existent, ponies and bullocks being used for riding and transport. Sofia is an imposing modern town. The Army is under the supreme control of the Sovereign.

There is under him, a Minister of War, who is the administrative chief of the army. He has always been an officer on the active list and is ex-officio, a member of the Sobrange. In war he commands the forces in the field.

By this means the man who is responsible for the training and organisation of the army in peace time has the handling of it in war. The present War Minister and Commander-in-Chief (under the King) is General Savoff.

There is no doubt that the system just outlined, which was inaugurated in 1903 by General Savoff, has proved a great success.

The organisation is clear and simple, and the officers and men are well trained and of a determined spirit.

Bulgaria, alone of the Allies, had made any attempt to form an aerial fleet before the war. There is an account of a Russian aviator, Timothy Effimoff, written in his own words, of his flight from Mustafa Pasha over Adrianople. This man was with the Bulgarian army and his story is given in Wagners book. He flew in a Bleriot aeroplane at a height of about 1600 to 2000 feet up. He dropped packets of proclamations into the town. Two of his planes were hit by rifle bullets and another by shrapnel bullets, without apparently doing any serious damage.

This is the only instance I have been able to find anywhere of the effect of fire on an aeroplane and as such it is of interest. Otherwise I can find nothing to learn from this campaign about this most important recent development of the art of war.

Navy.—Bulgaria has a small flotilla of 7 torpedo boats. They might have been used to try and prevent a landing by Turkey on the east coast, but would be of no practical value. They cannot be said to affect our subject.

GREECE.

The System of Training is based on that of the French army and French officers have been lent for the purpose. Ever since 1903 great strides have been made in military matters and the country has been whole hearted in its desire to prepare for war, so as to avenge 1896. There is little to choose between the three arms. The army as a whole has reached a high standard.

Military Qualities.—The Greek soldier is lithe and active, rather than strong. He is intelligent and dashing. He has great elan, but is somewhat lacking in the sense of discipline. He possesses love of country to a great degree and in a cause and for a leader he loves, he will go to great lengths; he is somewhat easily downcast and an initial victory is a necessity. His characteristics greatly resemble those of the French soldier.

In 1882 the War Office and the army were re-organised and again in 1903. The Crown Prince Konstantine (now King) has been Commander-in-Chief and there is no doubt that it is largely owing to his foresight and application, that the Greek army has reached its present efficient stage. It was not really quite ready for war, having an insufficient reserve and being short of officers—but the Commander-in-Chief carried it through. He may be said, at the same time, to be the strong man in the councils of the Allies.

The two books that I have put down about Greece are most interesting reading. All Greek modern history teaches us that what Greece has always wanted is a leader—this was particularly evident in 1822, 1878 and 1897. Now that she has at last found the “strong man” she has quickly got what she has been struggling for for centuries. In doing this she has incidentally shown up the absolute futility of the Concert of Europe.

Greece is an example of what good government and liberty combined will do for a nation. She got her independence in 1827 but no good government till 1862, when the late King George I ascended the throne. He found brigandage and corruption rampant.

He assembled a parliament which had been prorogued indefinitely. The members, in 1866, sat down and voted themselves pay. The King at once dissolved the parliament. Comment seems superfluous.

After 50 years of strenuous endeavour, he at last saw the prospect of his efforts being crowned with success. But like Moses he was not fated to see the promised land. He was assassinated in 1912. It has been left to the present King Konstantine assisted by M. Venezelos to consummate the work.

The Greek has always been a good sailor—everybody knows the reputation of the Levantine Greek as a trader and business man. Now that they have shown on the field of battle how they can fight and have got a leader, there is no saying how far they may go, and no reason why they should not become the predominating factor in the problem of the Near East, taking Turkey's old place at keeping the balance of power level between Slav and Teuton. The importance of this to England cannot be overestimated.

Navy.—Consists of 16 vessels of sorts and could probably count on keeping the coasts of the allies in the Adriatic intact. Beyond that it influenced the course of the campaign very greatly and unexpectedly by obtaining complete mastery over the Turkish navy in the Ægean Sea and preventing any Asiatic reinforcements for Macedonia being transported by sea. It was trained entirely on British lines and by British officers.

Since the beginning of the war 50 aeroplanes and hydroplanes have been added. Now I see the army is being rearmed. One of the questions of most vital importance to Greece is that of Crete and the Ægean Islands. By the Treaty of London Crete was given to Greece, but the question of the other islands was left in abeyance, and this is still the case. The greater number of the inhabitants of these other islands are Greeks, their sympathies are entirely Greek and for many years they have been endeavouring by every means in their power to be allowed to come under Greek rule. Before the Italo-Turkish war of 1912, they formed part of the Ottoman Empire. During that war a large number of them were seized by Italy and at the present moment some of them are governed by Italian governors though the majority have been occupied by Greece. Crete was the cause of the Greco-Turkish war of 1896—she was again the last match that set alight the conflagration of 1912.

SERVIA.

System of Training.—For the infantry is based on that of the German Manual, and for the cavalry on that of the Russian, in both cases modified by the lessons learnt from the Russo-Japanese war. The artillery however is trained on French lines, its officers are sent to France for instruction and this arm is very far in advance of the others in all respects. They, alone of the combatants, had any heavy artillery and this was a matter of very great importance later on.

Here I propose to digress for a few moments and touch on some questions of artillery tactics. In the August number of the R. A. Journal, there is an extremely interesting article translated from the *Revue d'Artillerie*. It consists of notes made by General Herr of the French artillery, who visited Uskub, Kumanovo, and Tchatalja—being actually present at some of the battles. The conclusions that he arrives at are as follows:—

(1) The artillery duel is a necessity.—Whichever side succeeded in silencing the hostile guns, then had two arms to one. The Turkish artillery tried to ignore the hostile artillery and were wiped out.

(2) Artillery can destroy its target.—Shields are no protection against artillery fire.

(3) Shrapnel bullets are more fatal than rifle and further, artillery fire did more damage than rifle fire.

(4) Oblique fire is of great importance.

(5) Observation ladders are a necessity.

(6) Necessity for husbanding the supply of ammunition.

This was greatly facilitated by previous registering of zones. The Servian method of obtaining fire superiority was:—

(7) If possible use your own heavy guns to knock out the enemy's field guns. Then use your own field guns to keep down the heads of and to destroy the enemy's infantry. Push your mountain guns up in close support with the infantry. At Prilip only mountain artillery could be used, while at Monastir again they were of the greatest value. This country is all very mountainous. The Servian cow guns travelled about $1\frac{1}{2}$ miles per hour, day and night over all sorts of ground so as to keep up with the infantry.

(8) At Tchatalja the Bulgarians endeavoured to push field artillery up with the infantry in close support but the batteries were wiped out and the infantry could not go on owing to Turkish artillery fire, and to the fact that their field guns could not afford adequate support at 6000 yards. This goes to prove that the Servian method just mentioned is the best.

(9) A universal shell like that now in use in the German artillery is a necessity.

(10) Very often the only possible means of observing was by aeroplane.

(11) Man harness for guns necessary—as horses often cannot be used on account of either fire or ground.

Military Qualities.—The physique of the upper classes is better than that of the lower. Their serving soldiers look ill nourished and ill set up, while the reservists do not appear robust. The spirit of the army, however is very good and their Infantry march better than their appearance would lead one to suppose.

The War Minister, General Putnik was Chief of the Staff in this war.

Since 1908, great efforts have been made to improve the army with a very fair measure of success. The lack of cadres for the 2nd line and of staffs for brigades, etc., in peace time interfered largely with the training and also with the mobilization. Servia has always been a turbulent nation and till 1867 was a province of Turkey. Hatred of Bulgaria is as great as that she has for Turkey. The present King was put on the throne by the army after the assassination of his predecessor in 1903. This has undoubtedly had a great share in forcing on the war with Bulgaria.

One of the best books I have read on this subject is "Through the land of the Serb," an account of her travels in Servia and Montenegro by Miss Durham. She describes both the country and the people in a most interesting manner.

The inhabitants of Servia are Serbs and of the same race as the Montenegrins; they are however very different in their characteristics. The inhabitants of Old Servia and the South Servians

are comparatively like the Montenegrins and are friendly with them. The further north one goes however the less becomes the similarity to and friendship for the Montenegrin.

The Servians as a nation, are short, squat and slow. They drink an extraordinarily excessive amount of water and the whole nation may be best described as being waterlogged.

The great industry is pig farming. Like the Irish, one of the great faults of the people is that they are always "up against the Government" and political intrigue is ever rampant. Their wants are few and they are quite without personal ambition. As a result of this the country is almost entirely unexploited. It is a rich pastoral land, greatly resembling England in the character of its landscape; oaks and other trees and flowers common to England abound and it would well repay any money and trouble spent on it.

Before the war, it was curious to note, how universal was the knowledge of, and the desire to avenge, the disgrace of Kossovo in 1389 and to make Servia a great nation again.

The army has undoubtedly made great strides in recent years. Its discipline is now undoubtedly very good. The extremely "difficile" district of Monastir has been ruled by the Servian military authorities under martial law with great success and to the thorough satisfaction of the inhabitants.

In these two wars the Servians have certainly provided the greatest surprise of all the nations. They were looked on as practically slaves by the Turks and nobody ever thought they would stand up to them in battle. Their organisation was not good and their mobilization was slow, consequently they were looked on as the weakest of the Allies except Montenegro. Then their physique was not supposed to be good and they were undoubtedly less civilised than Bulgaria or Greece. In spite of all this they have more than borne their share of the fighting in both wars as far as one can judge from the meagre reports yet to hand; their strategy, and tactical handling has been quite on a par with their physical courage and endurance, which all the correspondents speak of in terms of the highest praise.

MONTENEGRO.

Military Qualities. The Montenegrins are a wild and war-like mountain race. They never go unarmed. They know little of discipline as we understand it, but their system of tribal authority is very strict. They are of exceptionally fine physique and good guerilla fighters and they have proved in this war that they can fight in the open and capture entrenchments as well. They somewhat resemble the Boers in their military characteristics.

The King, Nicholas 1st, is autocratic—the throne has been in the Danilo family uninterruptedly since 1697. He is the supreme head of the military forces of the principality. There is a Minister of War who is administrative chief of the army and is responsible to the Skupshtina. The War Office is not yet complete.

The system of training and organisation is wonderfully simple and complete and has stood the test of this war remarkably well, even outside its own area.

The total population of Montenegro is less than that of Bristol. It has been kept an independent kingdom largely owing to the influence of Russia, who used her as a foil to Austria's southern march. At the same time it is well to remember that many people have endeavoured to annex Montenegro, but always without success. Over this war Montenegro escaped from Russia's leading strings and set herself to win her Naboth's vineyard, Scutari.

The reasons why this place was of such importance to so many nations are as follows:—

Montenegro wanted it because it is the gate of the only pass through the barrier of mountains on the south east of her—at present her actual boundary cuts straight across the middle of Lake Scutari.

Austria wanted Scutari kept from Montenegro because it is the Roman Catholic metropolis of these parts and the seat of missionary schools who have done a work as beneficial for civilisation as it is serviceable to Austria's aims. She would like to see Scutari the capital of a new Albania. This idea meets with the approval of the powers; its population being now preponderatingly Albanian.

The old school of Austrian politicians and strategists opposed with all their might the occupation of any part on the eastern side of the Adriatic as a naval base by any other power for fear of their own fleet being bottled up. This has been the commonly accepted reason for Austria's opposition to the occupation of Scutari by Montenegro, but on the face of it, it is a poor reason. What harm could a small state like Montenegro do to Austria, even if she did start a navy. Austria's new school of politicians now work on the basis that as long as long as Austria keeps a navy which is superior to that of Italy the question of ports in the Adriatic does not matter.

Italy wanted Austria's wishes in the matter of Scutari met because that gave her a fair pretext for pushing her own rights in southern Albania and acquiring Valona for herself.

Russia whose diplomacy throughout had been successful at the expense of that of Austria, felt that she could kill two birds with one stone—appease Austria at no expense to herself and punish her wayward protégé Montenegro by not backing her up in her demand for Scutari.

Although Montenegro does not appear likely to benefit to any extent territorially out of the war, it seems that the greatest asset she is likely to obtain is to increase her prosperity by making her internal and economic institutions like those of her new neighbour and ally *Servia*, whose nationality is the same as her own. Some people go so far as to recommend that she should merge her life in that of her more powerful neighbour. Whether this is a fair reward for her great sacrifice in men and money during the late war, may well be a disputed point. She lost 8,000 killed and died of disease *i. e.* 18 per cent. of her army or 5 per cent. of her total male population. A high price to pay and then be told the best thing you can do is to cease to be an independent kingdom after over 200 years.

TOPOGRAPHY AND STRATEGY.

I do not propose to go into the question of the topography of the country at any length—that, I think, explains itself very clearly from the map. The five great points to remember are :

(1) In Bulgaria, Servia and Greece the railway systems were good and constructed with the idea of concentrating an army as quickly as possibly on the Turkish frontier.

(2) In Bulgaria and Servia the roads were fair and plentiful.

(3) In Turkey in Europe there was only one single line of rail from Constantinople in the east to Mitrovitsa in the west with a few branch lines from it.

(4) The roads in Turkey in Asia are few and far between and those are worse than an Indian bullock track. The best are those in Thrace which were made by the Romans and have not been repaired since.

(5) Turkey in Europe *i.e.*, the theatre of operations, is divided into two by the Rhodope mountains—the eastern portion, *i.e.*, Thrace, is undulating grassland like the Orange River Colony, the western is wild, rocky and mountainous.

The strategy I only propose to touch on very generally, there is really nothing new to be learnt from it. Looked at from a broad point of view the chief point of interest is that the Turkish strategy was based on French lines, although the Turks had been trained by German officers. The strategy of the allies, on the other hand, followed more the German system; this again was strange because the allies had mostly been trained in French schools. Both sides, however, were forced by circumstances to act as they did, and this it seems to me will always be the case.

The chief problem that comforted the Turks was that of time and communications. There were two courses open to them. As I have already said the theatre of operations was divided into two—eastern and western—by the Rhodope mountains.

The first course open to Turkey was to assume the offensive in both theatres and endeavour to defeat the Allies in detail, before they could concentrate. This however she was unable to do, because her communications were bad and so was her administration. Also a large number of troops had been withdrawn from the west for the Italian campaign. For these reasons Turkey was forced to adopt the second course which was briefly as follows.

(1) The operations in the western theatre were to be strategically defensive and subsidiary. An army based on Uskub was to hold Servia and Montenegro. another army based on Salonika was to hold the Greeks.

(2) The operations in the eastern theatre were to assume the offensive as soon as possible. Adrianople and Kirk Kilisse were to form a strategic advanced guard behind which the Turkish mobilisation was to be completed. After this, Bulgaria was to be attacked and each of the Allies defeated in detail.

The plan was sound, but it failed because the Turks were too slow, their organisation was bad and they had no supplies.

The strategy of the Allies briefly was this :—

To concentrate as quickly as possible, defeating on the way, any Turkish armies sent against them and finally to march on Constantinople. That place as the capital of Turkey and the centre of the Mahommedan religion must be their main objective.

The tasks allotted to the various countries were—

In the western theatre, Montenegro by an early declaration of war was to keep the Turks occupied in Albania and northern Macedonia ; next she was to join in with Servia and march south wards, clearing Macedonia.

Servia was to march south in two columns, joining up with Montenegro on the way and finally with Greece about Salonika. She was also to send as many men as she could spare to assist the Bulgarians in the eastern theatre. She actually sent 50,000.

Greece was to clear the country about Epirus and Southern Macedonia and then be prepared to march with the other allies on Constantinople. Further, she was to obtain command of the Ægean Sea and prevent any reinforcements reaching the Turks from Asia Minor or from the east.

By this strategy which was everywhere offensive and based more or less on the German system of parallel lines of advance Sofia was to be protected from Turkish attack from the south. It is extremely interesting to compare this means of protecting the capital with that adopted by the Federals for the defence of Washington in 1862-65. Undoubtedly the Balkan Allies had learnt at any rate one lesson from military history.

In the eastern theatre, the strategy of the Allies was also to be essentially offensive. The Bulgarians, with the Servian detachment were to march on Constantinople in three columns, via Mostafa Pasha, the Tundja River and the road from Yamboli to Kirk Kilisse. Of these three roads the first was the best, whereas the last threatened the Turkish lines of communication.

Such very briefly was the strategy of the Allies, that it was eminently successful everywhere is proved by the following facts.

On October 24th the Bulgarians captured Kirk Kilisse and consequently drove in the Turkish advanced guard.

On October 26th the Servians entered Uskub.

On October 30th the Bulgarians utterly routed the Turks at Lule Burgas.

On November 8th the Greeks entered Salonika.

All this was within three weeks of the declaration of war, so it shows that the Allies had thoroughly appreciated the importance of striking hard and quickly. Had they only had an adequate force of cavalry and horse artillery with which to follow up their victories, they would probably have been able to get right through to Constantinople, as the Tchatalja lines were not then manned, and the war would have been finished in less than a month.

Incidentally our Territorial army which hopes for six months training after war has been declared, would not have been of much avail in this most recent of all campaigns.

CAUSES OF THE WAR.

The hatred of all the nations of the Allies for Turkey is of very old standing. With the exception of Montenegro they have all, at one time or another formed part of the Ottoman Empire and this state has only been saved from annexation by difficulties which Turkey has found to be insurmountable.

They have all spent many years and much money and trouble in preparations, so that they might be ready when the day should come that they would get a chance to humble Turkey once and for all. Up till now they have never been able to settle their differences among themselves sufficiently to allow of their making concerted action against the common foe.

The Italo-Turkey War, the Turkish Government crisis in the summer of 1912 and the Albanian disturbances, all combined to harass Turkey, at one and the same time, so as to weaken her to an extent almost unhoped for by her enemies. This was an opportunity which, if once it were allowed to slip, could not be expected to recur. Therefore all differences among the Balkan States had to be patched up and concerted action agreed on.

The Allies maintained that the continued failure of the Turks to effect reforms in Macedonia, and the oppression to which the Christian inhabitants of that region were subject, called for drastic action on their part. They were strengthened in this demand by the fact that Albania had just got by force the concessions now asked for Macedonia.

The Turks, on the other hand, alleged that the anarchy in Macedonia was due to the Greek and Bulgarian insurgent bands who traversed the country provoking disturbances in the hope of forcing the intervention of the Powers.

Be that as it may, the result of the causes just enumerated was that on September 30th, Bulgaria, Serbia, Greece, and Montenegro had patched up their differences and agreed to act in accord. On that date orders were issued for the mobilization of these four armies and the Greek navy. In reply an Imperial Iradeh was issued in Constantinople on October 1st, ordering the mobilization of the Turkish army. Both sides were enthusiastically in favour of war and opposed to any concessions.

After this events moved very quickly and in spite of all the efforts of the Powers for peace, Montenegro declared war on October 8th and on October 17th Turkey was at war with Bulgaria, Serbia and Greece as well.

This was the result of a process of gradual development assisted by an ante bellum mobilization and it is not really known who actually declared war first. All the Great Powers remained neutral.

LESSONS TO BE LEARNT FROM THE WAR.

I think this war has proved to us the truth of the saying of the Archduke Charles of Austria "The germs of defeat and national ruin may be contained in the first preparation for war."

We have seen, with regard to Turkey, how unprepared for war she was. She had trusted to European intervention, because the Powers had backed her up in her revolution, and also cancelled her big manœuvres which would have assisted her mobilization. But European intervention as in the case of the American civil war and indeed most cases, proved a delusion and a snare and Turkey was caught unprepared.

Her artillery which was supposed to be her best arm, was completely outclassed by that of Bulgaria. Some people describe this to the armament, some to the drill and training. Be that as it may, it was preparation in peace time that made the superiority in war. Then again the war has shown us the uselessness of all but 1st line troops. The Turkish Redifs were brought up untrained, given new Mauser rifles they had never seen before and hurried into the firing line, simply to be mown down by the well trained troops of the Allies.

There was practically no cavalry in any of the armies. This may have been due to the nature of the country in which the army was raised, or to lack of horses, or to the Government not supplying money to raise and equip cavalry. Whatever the cause, the want of cavalry and horse artillery was very badly felt, and if only the Bulgarians had had any of this most necessary arm, their victory would have been much more complete and much money would have been saved them in the long run.

The truth of the saying that "an army marches on its belly" has been more than justified. If the Turkish army had been fed at Lule Burgas, as they were afterwards at Tchatalja, they would have put up a much better fight and if the ammunition supply had not given out, they might have won. Again, the Bulgarians were prevented from pushing on straight to Constantinople by the necessity for reorganising and replenishing their "trains" after Kirk Kilisse and Lule Burgas. As it was, they were then over 200 miles from their base, and if their organisation had not been very good, they would never have been able to get there in the time they did.

Medical and Sanitary.—Arrangements on both sides were bad, except those of the Greeks. The losses throughout from disease were appalling; cholera, dysentery and enteric being epidemic.

As an instance I may quote the case of the Roumanian army which in its three weeks advance south through Bulgaria lost three men killed in action, but over 400 died of disease.

This shows that the lessons in military hygiene to be learned from the Japanese in 1904 had not been grasped by either side. Of communications in the field the Turks had none, consequently co-operation was an impossibility. In both the Bulgarian and Greek armies the field cables and telephones worked extremely well, particularly in the latter. In all the Allied States, the system was followed that the man who was responsible for the making of the army in peace time had the handling of it in war. After the disaster of Lule Burgas the Commander of the Turkish Army of Thrace, Abdullah Pasha, was replaced by Nizam Pasha, who was also, and had been all along War Minister. Things then took a turn for the better for the Turks, pointing again to the conclusion that the Bulgarian one man system is the best. Unfortunately Nazim Pasha was assassinated before it was possible to thoroughly prove or disprove this theory.

One of the most important lessons of the war is the advantage derived by the Allies and to a less extent by the Turks, from the close secrecy which they maintained as to what they were doing during their operations; not even Stonewall Jackson could have rivalled the way in which friend and foe, military attaché and war correspondent alike were deceived and often induced even to publish false information.

With regard to the objectives governing the formation of a strategical plan, we learn that the two most important are still the destruction of the enemy's armed forces in the field and the capture of the capital.

The food supply, also, as in former wars, was of vital importance. Events moved so quickly, that the question of finance during the war did not arise, but the question of finance, during the preparatory stages, was, as ever, all important.

A new objective, or rather, a cause that has not been apparent in the wars of recent years, and that is religion, has been introduced by this war. One of the chief objectives of the Allies was to drive the Mahommedans out of Europe and to set free the oppressed Christians.

In the subsequent fighting among the allies themselves there can be no doubt that the difference between the Greek and Bulgarian Churches, which were glossed over while making common cause against the hated Moslems had broken out again and very much complicated the situation.

There is no doubt that by their recent bickerings over the spoils of their war with Turkey, the Balkan States have entirely alienated the sympathies of the civilised world and forfeited all their original claim that theirs was a crusade against Mahomedan tyranny over their oppressed Christian brethren in European Turkey.

Atrocities.—There is one point I just want to touch on, and that is the question of atrocities. As is usual in all wars, a lot has been written about atrocities on both sides. In Thrace, I think there is no doubt there were no atrocities. In Macedonia and Albania, however, there are guerilla bands of Bulgarians, called Komitadjes, who have waged war against the Turks for generations. On neither side has it ever been the custom to give quarter—women and children, combatants and non-combatants, when captured, have always been killed. The Komitadjes joined in the war and to oppose them the Turks sent Bashi Bazouks. There is no doubt that atrocities took place in these districts and war correspondents hearing of them have probably coloured the story of the war accordingly without understanding thoroughly the facts of the case. Now again in the fighting between the former Allies, very circumstantial cases have been quoted of atrocities supposed to have been committed by both sides, principally the Bulgarians. I fancy however that the same solution still holds good. In addition it is necessary to take into account the fact that the veneer of civilization over all the combatants is very thin and that the hatred is very intense.

In any case I do not think it is advisable to believe too much of what one hears, or to be carried away by the accounts of either side or of correspondents.

To sum up—there seems to be very little new strategy to be learnt from this war, and no great general has been produced by it.

All the lessons of the past appear to be amply borne out and we learn once more that preparation for war must be long and thorough in peace time, and that when war comes, rapidity is the keynote and the blow must be a crushing one.

That is all I have to say about the war between Turkey and the Allies.

So far I have endeavoured to show you very briefly the causes of the war between Turkey and the Allies and the results of that war. Now let us turn to after events. Almost before peace had been declared the Allies were squabbling among themselves, as to the distribution of their conquests.

Before ever the Allies went to war with Turkey they drew up a secret treaty among themselves at Sofia in September 1912. I have shown approximately in Map, 2 how they proposed to divide their winnings among themselves. Map 3 shows you how the Great Powers decided, by the Treaty of London, that the country should be apportioned. In order to keep the peace of Europe, Albania had to be made a kingdom on its own; this deprived Serbia, Montenegro and Greece of a lot of their fair winnings, but took nothing from Bulgaria. The three first named demanded compensation from Bulgaria, Serbia demanding a triangle of country round Monastir and Greece one round Salonika; this Bulgaria refused to grant and feeling stronger than she really was, attacked the Allies with the object of cutting in between Greece and Serbia and defeating them in detail. This she failed to do and was rapidly driven back on Sofia.

At this period Roumania stepped in with an old standing demand for some territory on Bulgaria's north eastern frontier. Turkey, seeing how Bulgaria was being defeated on all sides by her late Allies, took heart of grace again and pushed forward to Adrianople and the line of the Maritza. Bulgaria indeed gave up the substance for the shadow. The final distribution of the disputed territory is shown in map 4.

The question of how the balance of power in Europe is affected by recent events in the Balkans is too big a one to enter in to here, but before I stop I should just like to draw your attention to three facts.

- (1) Italy is a member of the Triple Alliance.
- (2) Italy has just seized Tripoli in North Africa.
- (3) Italy wants Crete and the Ægean Islands.

If Italy gets Crete and Ægean Islands she has complete mastery over the entrance to the Suez Canal.

Three more facts of interest are these.

- (1) Great Britain is a member of the Triple Entente.
- (2) Greece is a firm friend of Great Britain.
- (3) The Suez Canal is of vital importance to us.

I have shown you earlier that one of the causes of the war with Turkey was because Crete wanted to come under Greek rule. From the above facts I hope you will see whose claim it is to our interest to back in every possible way.

To sum up, it appears to me that now that Turkey has been ousted from her old position the task of keeping the balance of power in Europe level as regards the Near East, must fall into the hands of Greece. This, at any rate, would suit Great Britain best.

General Aylmer, in proposing a vote of thanks to the lecturer, said that a great deal of valuable information had been put before them that afternoon. It took a great many years before a campaign revealed its true significance and it was better to study campaigns themselves than their lessons as evolved by somebody else. There were fashions in what was called "military art" and those fashions were more readily influenced by such lessons. That was true of the art of war. There were a great many ways of doing the same thing in war, and because a victorious general adopted one way, that did not prove that it was the only way. They must remember to do what they had in hand thoroughly and whole-heartedly according to whatever method they had chosen for carrying it out. The only lessons of the Balkan war that seemed to him at all plain at present were those of military policy and organization and those only confirmed what every one should have known before. But alas! they were constantly forgotten by those who should remember them. The first was the vicious system of adapting our military arrangements to meet a limited situation, which was the offspring of so-called financial necessities and our want of energy, self-sacrifice or

thoroughness. In this spirit Turkey came to the conclusion that a combination of the Allies against her was quite outside the bounds of practical politics (a very favourite expression of the economist) and that it would be pure waste of money to provide for such a ridiculous contingency. The strength and efficiency of an army was the barometer of a nation's patriotism, and these things could not be calculated like a mathematical problem. And, again, Turkey trusted to the intervention of the Powers, instead of trusting to herself. Such trust in outsiders was cheap and was commanded only by those who had forgotten the old saying about not putting your trust in princes. General Aylmer also drew attention to the forces that these poor and small Balkan States put into the field and kept there. The audience were asked to mark well the expensive power of the peace organization. On an average one thousand men were turned into six thousand. There was another system which a few ultra conservative nations stuck to, viz. turning one thousand men into six hundred. Of course the fighting value of each man of the six hundred was greater than that of each man of the six thousand, but the six thousand would simply overwhelm the six hundred. The depreciation of numbers and undue exaltation of efficiency (with a big "E") was only correct a very little way. It was a theory dear to the hearts of the unpatriotic who did not choose to make any sacrifice for the good of their country. He disagreed with the view that 2nd line troops were worthless. This was only true if they had no organization. In conclusion, General Aylmer called attention to the necessity of starting organization at the top, a principle which the Balkan States understood. The Government of a country must have a correct mentality before a proper organization was even possible. In this Turkey failed miserably. Not only the rulers but the people must be whole-hearted in the cause if an army was to be organized in a manner which was calculated to ensure success. It was better to suffer the ill of a very large recurring financial outlay in expenditure on the military forces than to endure the ignominy of national chaos and financial cataclysm brought about by defeat.

with the

SLOVENIA.		MONTENEGRO.
MILITARY SERVICE.	Period of service in all the other 4 is reserve service till about 50.	
POPULATION.	1½ Millions.	
PEACE ESTABLISHMENTS.	Only staff maintained.	
WAR ESTABLISHMENTS.	50,000 30,000 Mobilized. No cavalry.	
MOBILIZATION DETAILS.	How worked on system. Concentration complete within 10 days.	
ARMAMENT.	Infantry 1903—Line Russian Rifle 1898. Artillery obsolete Krupp.	
SUPPLIES TRAIN AND CAL SERVICE.	None—All tribal arrangement.	

Tarvel.

ants of
War.

European
situation.
level,

Mayne's
lecture

: 1913.

330,000,000 ps.	} On first mobilization.
MOBILIZATION.	
ARMAMENT ORGANISATION.	
TRAINING.	
MORALE OF	



APPENDIX II.

Books and Magazine Articles of interest in connection with the problem of the near East.

Regilding the Crescent	By Aflalo	} History and Travel.
Czar Ferdinand and his people	„ Macdonald	
Through the lands of the Serb	„ Durham	
The Balkan Trail	„ Moore	
Greece in the 19th Century	„ Sergeant	
Reminiscences of Greece	„ Wise	} Accounts of the War.
Europe and the Turks	„ Buxton	
With the Turks in Thrace	„ Ashmead Bartlett	
With the Victorious Bulgarians	„ Wagner	
With the Conquered Turk	„ Lionel James	
With the Servians at the Front	„ Vischer	} Accounts of the War.
The Campaign in Thrace 1912	„ Howell	
The Defeats of Young Turkey and the possibility of its Rejuvenescence	„ von der Goltz	} The European Situation.
The Mediterranean Problem	„ Charles Villay	
Germany and the next War	„ Von Bernhardt	
A Balkan Princess	„ Roberts	Novel.

Journal of the R. U. S. I. monthly, particularly Colonel Mayne's lecture in the number for May 1913, and Captain Trapman's lecture in the number for April 1913.

Army Review	... January 1913.
Journal of the R. A.	... March 1913, May 1913, August 1913.
Quarterly Review	... April. 1913, July 1913.
Review of Reviews	... Monthly
Contemporary Review	... July and August 1913
National Review	... July 1913
Bulletin De L'academie	
Round Table Magazine	... March 1912, June 1913.
19th Century Magazine	... August 1913.



THE BALKAN PENINSULA

MAP I.



BOUNDARIES BEFORE WAR

THE BALKAN PENINSULA

MAP 2.



BOUNDARIES BY SECRET TREATY OF SEPTEMBER 1912

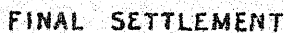
THE BALKAN PENINSULA

MAP 3.



BORDERED BY TREATY OF LONDON

MAP A



any reader of the war in France to go somewhat into details. He will find that the *régiments de ligne* were formed of the regular battalions brought over from Algeria and he will find that the *régiments de marche* were formed from companies taken from the different dépôts of the regular regiments which had originally gone to the front. It must be realized that in peace time each regiment of the regular army was organized in 3 battalions of 8 companies each, but that only 6 companies per battalion were mobilized for war. The companies thus left at the dépôts were then combined into a 4th battalion, and by putting 3 of these 4th battalions together a *régiment de marche* was formed. To understand the *mobiles* and *mobilisés* one must go back to the various attempts to form a French territorial army as a part of its regular active army. In 1851 a law had been passed establishing the principle of universal service in a *garde nationale*. Exceptions to service were numberless and units were only to be organized in certain named *communes*. Members of this force could not be called on for service outside their *commune* unless they specially volunteered. By 1870 only 51 battalions had come into being, but by a succession of laws in 1870 hundreds of detached companies and battalions sprung up, formed of men who did not come under the conditions of service in the *gardes mobiles* (which will be explained shortly). The majority of these units formed the *garde nationale sédentaire*, while those which were sent to swell the field forces were known as *mobilisés*.

The greater portion of the field force after Sedan were composed of units of the territorial army whose organization had been Marshal Niel's pet child—the *gardes mobiles*. That astute war minister, with the lesson of 1866 fresh in people's minds, brought out, in 1868, his scheme for a second line army. All men between the ages of 17 and 40, who were unmarried or widowers without children, and who had not been taken for the active army, or being taken had obtained substitutes, were liable to service for 5 years. Exceptions, however, were numerous and training was to consist of 15 daily drills; each *département* was to find so many companies, battalions, or batteries, according to its population, but there was no fixed strength and some battalions were 2000 strong. The intention

was to raise 318 battalions and 122 batteries, but the combination of the death of Marshal Niel with the parliamentary opposition to expenditure on armaments, reduced the means of raising the force to so low an amount that nothing had been completed when war broke out in 1870. Nor had the Ministry of War given any thought to the manner in which these units were to fit in to a war organization. Thus the outbreak of war found everything in a state of chaos and it was long before the majority of the territorial units could receive any equipment. In July it was decreed that brigades and even whole divisions should be formed of these units but, later, wiser councils prevailed and we find, in Bourbaki's Army of the East, brigades composed of *gardes mobiles* and regular units (albeit *depôt* companies) in nearly equal numbers. The *garde nationale mobile* also provided a certain number of irregular mounted corps which however worked independently. The cavalry brigades attached to Bourbaki's army were composed of regular regiments and *régiments de marche*. Tremendous efforts had to be made to organize batteries,—of material there was sufficient in the arsenals, but the establishments had to be hastily raised and trained in a few artillery *depôts*.

Nothing shows the inherent weakness of such a force so much as the recruitment of the corps of officers. The companies and squadrons of the *régiments de marche* were officered by those who had long since retired but who returned with the rank in which they had left; by warrant officers of *gendarmérie*; and by officers of the Navy and Marine. Prior to September the officers of the *garde nationale* had been drawn from the pensioned list and had been nominated by the Emperor, but there was such a strong measure of dissatisfaction in the ranks that the Government of National Defence decreed that units should elect their own officers: generals of divisions were also given powers to grant commissions and make promotions to any grade. In fact where nothing had been foreseen and no steps had been taken to give a training to the cadres of the territorial army, every conceivable means had to be brought into play merely to fill the ranks of cadres, and then trust to luck that men would become leaders because they were put to lead.

Apart from whether the French idea of what a territorial army should be was sufficient or not, the outbreak of war in 1870 found nothing done, and the invasion of France in the autumn was met by a nation whose sacrifices and whose genius for organization have never been equalled, and yet it failed—and why? because the machinery which war brings into play cannot be improvised; it must have been put together and kept oiled.

It must be remembered that the actual Government of France was in Paris itself, but the direction of *la défense nationale en province* had been delegated to certain officials assembled at Tours. In the beginning of October the need of a strong man was so evident that the Government appointed Gambetta with special powers to take charge of affairs. He in his turn appointed a M. de Freycinet as chief of the Military Cabinet. Born in 1828, M. de Freycinet's profession became that of a mining engineer; from 1858 to 1862 he had, however, been traffic manager of the Midi railway, and had established a reputation as an organizer. On joining the government at Tours he at once set about the reorganization of what elements there were of a war office. His chief assistants were General of brigade Loverdo, who combined the functions of an Adjutant-general as regards mobilization with those of a Chief of a General Staff as regards operations and training, and a General Thomas who was a sort of Director-general of Ordnance. The Quartermaster-general's duties were under a M. Ferot, lately at the head of the Western railway administration. M. de Freycinet, however, placed little reliance on the advice of the soldiers as regards plans of operation and chose rather to rely on his own ideas, aided by those of a somewhat remarkable young man named M. de Serres who was his secretary. This latter gentleman had been a railway engineer in Austria and his age was under 30; how he came to be serving France the writer has been unable to discover; his real name was Wiczsfinski.

The situation with which this Military Cabinet had to deal was critical. The results of the heavy fighting round Orleans were the occupation of that town by the Germans on the 4th December and the retreat of the French Army in two directions;

the 16th and 17th Corps under Chanzy westward and the 15th, 18th and 20th to the south and south east. By the 12th December these latter corps had concentrated round Bourges; meanwhile Bourbaki had taken over their command from Aurelle de Paladines. Their retreat from Orleans had been carried out in the greatest disorder and they had only been saved from destruction by Frederick Charles recalling his III and X Corps from the pursuit. Bourbaki was only prevented from retreating further south than Bourges by the insistence of Gambetta, and the next few days were spent in giving his demoralized units some rest and in making some attempt at reorganization. Thus during the first days of December the attempts both of the army in Paris to break out and of the armies of the Loire at Orleans to advance to the relief of the besieged capital had failed disastrously. Immediately investing Paris were 8 German corps and 2 cavalry divisions: in the north Manteufel after defeating Farre at Amiens had his 1st corps facing Briand's 20000 at Havre with his VIII corps and 3rd cavalry division near Amiens, about to move against Faidherbe and his 43000: between Orleans and Vendôme Chanzy with his 2 corps was for the moment checking Prince Frederick Charles and the Grand Duke, who had altogether $4\frac{1}{2}$ corps and $2\frac{1}{2}$ cavalry divisions, the remaining $\frac{1}{2}$ corps and $\frac{1}{2}$ cavalry division being in the vicinity of Orleans watching towards Bourges.

The daily life of the investing force round Paris depended on its single line of communications which ran through Chalons and Nancy. To the north of this line was the 14th division near Mezières, to the south was Zastrow with the 13th division of his VIIth Corps approaching Chatillon-sur-Seine *en route* for Auxerre where he was to link the German forces at Orleans with those at Dijon. These latter were the Baden division (of 2 brigades), a Prussian brigade and 1 cavalry brigade composing the XIVth corps under Von Werder*; the 1st reserve division was investing Belfort. At Autun was Garibaldi's 'army' of 12,000, at Nuits was Crémér's division of 10000, while at Lyons 2 divisions were being formed which with Crémér's force was

* The 4th reserve division joined Werder about the 16th December.

to form the new 24th corps: Besançon had a garrison of some 10,000 armed men. Langres was still in the hands of the French.

It was evident that, whatever part the other forces in France played, it must be with an army gathered from the South that the next great blow must be struck. The question was in what direction should it fall?

Previous to the disaster of Orleans the intention had been for the French armies of the Loire to advance directly on Paris and thus create a diversion which would have perhaps permitted the army in Paris to break out. A similar move, now, with a force less by half in numbers, whose line of advance would be within easy striking distance of Prince Frederic Charles, was doomed to failure. Yet this was the course which the director Gambetta, now at Bourges, forced on Bourbaki, though as a concession to Bourbaki a détour via La Charité was agreed to *en route* to Montargis. On the 18th December Bourbaki issued his orders for the advance to begin next day, on the morning of the same day M. de Freycinet at Bordeaux heard of the plan from Gambetta. M. de Freycinet, however, had quite different ideas as to a line of operations for Bourbaki's army, and at 11-40 telegraphed to Gambetta that he too had a plan which he and his friend de Serres had carefully thought out, and that he was sending de Serres with a letter of explanation. The complete text of this letter appears for the first time in the French History of the War. The plan which it disclosed, fraught with such consequences through the manner in which it was carried out, has been subjected to a detailed criticism in this admirable history. De Freycinet's plan briefly was this:—move the 18th and 20th corps by rail to Beaune, they with the force under Garibaldi and Crémier will provide 70,000 men with which to retake Dijon; cover this move and guard the arsenal at Bourges with the 15th corps; meanwhile 45,000 can be assembled at Besançon; Dijon taken, this mass of over 100,000 can threaten the vital line of communication; Chanz y in the west should be able to keep the Germans opposed to him occupied long enough to prevent them interfering,—the sieges of Paris, Belfort, and the Northern fortresses will be raised automatically.—

Unfortunately de Freycinet's reference to Belfort led to the interpretation being put on it that raising the siege of Belfort was as much a portion of the rôle of the Army of the East as threatening the communications. From subsequent events it appears that M. de Freycinet's confidant, de Serres, also failed to realise what the army's real objective was meant to be.

M. de Serres arrived at Bourges on the morning of the 19th and found general Bourbaki about to take leave of Gambetta: although Gambetta actually read the letter before Bourbaki left, he said no word to him of its contents. After Bourbaki's departure Gambetta and de Serres argued about the merits of their respective plans, the former adding that the march for Montargis had now begun and it was too late to change. M. de Serres persisted, and finally Gambetta said 'overtake Bourbaki, and if he accepts your plan I agree to it too.' M. de Serres lost not a moment, and found Bourbaki at Baugy* at about 5 p. m. At 6 p. m. de Serres was able to despatch a telegram from an office 5 miles distant to say 'matter arranged'! It had taken inside half an hour for the Commander in Chief of the army on which depended the fate of France to grasp, and agree to, an entirely new plan of operations. De Serres did not even show Bourbaki the letter but unfolded the plan in his own words:—that explanations in such an interview would be fruitful of misunderstanding is not surprising.

Apparently Bourbaki gathered that his objective after capturing Dijon was Belfort, and that not till after the siege of that place had been raised was he expected to move against the line of communications, and then his line of operations was to be via Langres. Thus not only was he prepared to waste valuable time in going some 90 miles eastward from Dijon keeping at a distance of 80 miles from, and parallel to, the line of communications, but to return 75 miles on the same course before he moved north. That this was his idea of his objective did not become apparent till the end of December. It was conclusively proved, both by his own evidence and that of his chief staff officer in the enquiry after the war, that de Serres himself had misinterpreted

* 17 miles E. of Bourges.

de Freycinet's plan. Bourbaki may well have thought on the 19th December that the retaking of Dijon was quite enough to think about at that time and so did not worry about the rest. Gambetta in his evidence implied that by temperament and inclination Bourbaki was only two willing to move east rather than north,—to the circumference of the storm circle rather than its centre. One must remember that Bourbaki's recent career had laid him open to the suspicion of being half hearted in the cause of the republic. Son of a Greek colonel, he was born in 1816; during the Crimean War he had commanded the Algerian troops; in the war in Italy he was commanding a division; in 1870 he commanded the Guard corps, and was shut up in Metz with them after Gravelotte; then he had been allowed to leave Metz and visit the Empress Eugénie in England in consequence of a message received at the hands of one Regnier which turned out to be false. The Prussians, for some reason, refused to allow him to return to Metz, and after receiving a command in the North of France he was sent by Gambetta to command the Army of the East after the disaster at Orleans. It may well be that Bourbaki felt his untrained and heterogeneous force was not fit to meet the victorious German troops. The truth would appear to be that he was a man of weak character and no talent, and was not capable of rising to such a situation. It will be found that it was M de Serres who commanded the Army of the East,—and it will be remembered that M de Serres had evidently failed to grasp the true objective of France's last army as outlined in his master's plan.

Gambetta was apparently much impressed by M de Serres and forthwith gave him unlimited powers to arrange matters. De Serres interpreted this by giving direct orders to all manner of people with the result that eventually he called down on himself a severe reprimand from de Freycinet, who told him to mind his own business, which lay only with Bourbaki. It was a curious situation:—a young ex-railway engineer accredited to the headquarters in the field as the representative of the War Minister, corresponding direct with that official and having in his pocket a warrant to relieve the Commander in Chief of his duties when he felt inclined !—Meanwhile there was a differ-

ence of opinion between Gambetta and de Freycimet as to the command of operations in the east which ended in a compromise by which Garibaldi with his 'army of the Vosges' was to be independent of Bourbaki, who was to command only the 18th, 20th, and 24th corps; nevertheless they were to cooperate with one another at the instance of Bourbaki. Later on it appeared that Bourbaki was basing his operations on the fulfilment of various promises by de Serres on behalf of the Government which he was not in the position to make. Nor were affairs simplified at headquarters by Bourbaki's aide-de-camp, Lieutenant-Colonel Leperche, arrogating to himself the functions of the chief of the staff with whom Bourbaki was not on good terms.

As soon as de Serres had got Bourbaki's acceptance to the change of plan he busied himself with the arrangements for moving the 18th and 20th corps and a brigade of the 15th corps by rail to Chagny and Chalon.

The transportation of these $2\frac{1}{2}$ corps for a distance of 100 to 130 miles is pregnant with lessons as to the use of railways in war time, for the manner in which movement is to be carried out and controlled under war conditions must be foreseen and is as much a part of the organization for national defence as is the training of the national army.

By October 1870 the working of the French railways had become considerably dislocated owing to the German invasion and particularly to the investment of Paris into which converged all the principal lines. By a decree dated 16th October the managements of the various railway administrations were asked to take steps to ensure the civil service over the lines available giving way to military traffic whenever necessary. In order to ensure a methodical and rapid military traffic it had to be laid down by the Government that no military train was to be kept longer than two hours at a junction where two systems met. No company was to decline to run military trains on the ground of danger owing to the proximity of the enemy; the military authorities were to be the judge of the advisability or otherwise of a movement. On the 23rd October the Government decreed that a mere notification to a station master by a duly accredited

delegate was sufficient authority for the suspension of all civil traffic. By these and other decrees the technical working of the railway was entirely subordinated to military authority but at the same time the railway authorities were held responsible for the proper working of the traffic,—a contradiction which was to be the cause of future trouble.

The fact that it was found necessary to promulgate such decrees shows to what a small extent the Government of France had been able to control the working of the railways in the first part of the war for military purposes. Regulations for military traffic had indeed been neglected alike by the Government and by the military authorities. It is true that in March 1869 at the instance of Marshal Niel a joint committee of high military and railway officials had sat and had presented a most excellent report with clear directions as to how the railways were to be put to the best use; how traffic was to be controlled; what the relations between the railway and military authorities were, and how the purely military regulations for entrainment and detraining etc., etc., were to be amended. Nothing had been done when war was declared in July 1870. Railway employees were even summoned to join the colours at the very time that they were most required on the railways. The regulations were antiquated complex and ill-suited. More thought had been given to measures by which the military department should get military traffic done cheaply than that it should be done methodically and expeditiously. There was no act by which companies could be compelled to put stock at the disposal of the army. There was no actual co-ordinating authority; there were no pre-arrangements for the movement of the army to the frontier; the capacities of detraining stations had not been examined: trains were fitted in as necessity dictated. Orders and counter orders for trains succeeded one another in rapid succession and came from all manner and kind of authority.

That under these conditions 200,000 men, 30,000 horses, and 4,000 army vehicles had been transported at the commencement of the war to the frontier in 14 days along 4 lines must be attributed to the large amount of available rolling stock and the superhuman efforts of the railway officials.

To return to M. de Serres :—At 3 a. m. of the 19th the Traffic Manager of the Lyon Mediterranean Railway received a telegraphic communication from de Freycinet at Bordeaux asking him to proceed at once to Bourges and put himself in communication with M. de Serres at that place, as it was probable that his company would be called on the next day to make some special arrangements. M. de Audibert went at once to Bourges and on the morning of the 20th met M. de Serres who informed him that arrangements must be made to move Bourbaki's corps as rapidly as possible from La Charité and Nevers on Chagny and Chalon without interfering with the move of the 24th corps from Lyons to Besançon, arrangements for which had already been made. M. de Audibert pointed out that almost all his company's available stock had been accumulated at Lyons for the 24th corps and that it would be necessary to call on the Orleans railway to provide the greater portion, if not all, of the stock with which to move Bourbaki's army. M. de Taille, the representative of the Orleans company, was present at the meeting and M. de Serres impressed on him the necessity of suspending civil traffic so as to set free the stock. M. de Audibert at once telegraphed to suspend immediately the civil traffic on the main lines of his company and to reduce the traffic on other lines. Through delays in the telegraph service these messages, though sent off at 10-30 a. m. 20th, did not reach their destination till 10-30 p. m. that night and 7-15 a. m. on the 21st, so that the whole of the 20th was wasted.

On the 20th Bourbaki's army continued its march to the Loire with the exception of the 1st division of the 15th corps which received orders just before it marched to remain where it was, about 2 miles west of Bourges. Orders reached the 20th corps on the 21st in time for it to concentrate its cavalry and artillery near Nevers railway station and its infantry near Saincaize railway station; the units then received orders for their entrainment for Chalon which was to commence that night. The orders did not reach the 18th corps until that corps had begun its preparations for the march northwards on the 22nd from its bivouacs north and north-east of La Charité. Entrainment was to begin on the evening of the 21st; the

corps supply columns were to move by road. It was found impossible to obtain stock in time for the movement to commence on the 21st and the first entrainments did not take place till midnight 21st—22nd and the early hours of the 22nd. Altogether 62 battalions, 31 squadrons, and 20 batteries were moved and the movement was not completed till the 29th December.

The chief difficulty was the provision of stock in the time required and it was most unfortunate that all the stock tied up at Lyons to move the 2 divisions of the 24th corps from Lyons to Besançon was not released, since the 24th corps was not ready to move for another 8 days. The movement of the 18th and 20th corps was further complicated by Bourbaki's desire to move on those units of the 20th corps which had not already detrained on 27th to Dôle, consequent on the evacuation of Dijon by the Germans. This presented difficulties as the line via Dijon was broken near Dijon and the line south through Maçon, Bourg, Lons Le Sauniers meant a détour of 150 miles along a single track with many stiff gradients. There remained a line from Chalon direct to Dôle but as this was barely completed and still wanted ballasting the railway authorities were against its use. Nevertheless at the instance of M. de Serres (who went over the line on an engine) it was utilized and the first train which arrived at Dôle at 8 p. m. on the 28th left Chalon at 11 a. m. (50 miles in 8 hours).

All this time the weather had been frightful. Sleet and snow had commenced falling on the 19th. While the troops were waiting to entrain they had continued to bivouac for no other reason than that it was not the custom to seek billets. The 20th corps alone lost 4000 men, sick or dead, in the course of a few days; many deserted and all sense of discipline was completely lost.

No sooner had Bourbaki reported the measures he had taken to meet the somewhat unexpected circumstance of the evacuation of Dijon by Werder than de Freycinet took on himself to tie the hands of the Commander in Chief in the field. On the morning of the 20th de Freycinet telegraphed to Bourbaki that he required to know every evening the exact positions of the

troops and the proposed plans for next day so that he might if necessary send him instructions for the morrow's operations ! At the same time he telegraphed to de Serres that no decision was to be taken without his (de Freycinet's) approval. Thus all further operations were to be directed from the War Minister's office at Bordeaux :—that Bourbaki accepted such a situation is evidence enough of his weakness of character.

During the afternoon of the 28th Bourbaki sent two despatches to de Freycinet which shows clearly what his idea of his next move was. With Crémier and Garibaldi in position north and north-west of Dijon he intended concentrating the 18th and 20th corps between Auxonne, Dôle, Pesmes, and Dampierre, thence he would advance with the corps moving from Besançon, against Werder whom he assumed would retire on Gray, and probably on Vesoul. If he could occupy Vesoul, and Garibaldi then moved across to the Vosges between Vesoul and Belfort, the siege of the latter place would necessarily be raised.

At midnight de Freycinet replied that he agreed. It was from this moment that de Freycinet's original plan assumed its altered shape ; and it should be marked that the alteration was agreed to by the War Minister himself. In his despatch agreeing to the move on Vesoul de Freycinet added his congratulations on the good feeling that existed between Bourbaki and de Serres who, he said, was prepared to give him very useful information. Such advice, however, was in no way to embarrass Bourbaki's decisions for which he alone was responsible ; a contradiction, if ever there was one, to his order that all plans were to be subjected to his own approval.

Here it will be well to leave the self sacrificing army of France, bivouacking in the snow, partially clothed, ill equipped, absolutely untrained, face to face with certain defeat because the leaders of the nation had said an organized territorial army would cost too much and the nation was not ready for such a course. And at its head a general, fully realizing his army's faults, egged on to action which could have only one end, and at the same time interfered with in all his operations by an ex-

mining engineer, as war minister in an office 300 miles away, with another ex-engineer at his own elbow in whose pocket was authority for disgracing him at such time as he pleased.

Note.—Books chiefly consulted were the volumes, in the French official account of the war, dealing with the organization of national defence in the provinces, and Bourbaki's operations in the East.

Table showing constitution of Bourbaki's army, and other forces, in the operations in the East. (January 1871).

			Battalions.				Squadrons.	
			de ligne.	de marche.	mobiles.	mobilisés.	de ligne.	de marche.
15th Corps ...	...	...	9	25	19	...	24	12
18th Corps ...	...	...	6	20	15	...	...	16
20th Corps ...	...	...	...	7	26	...	8	4
24th Corps ...	...	...	...	6	15	6	...	8
Crémer's division	...	...	...	6	7	...	...	...
Garibaldi and detachments	...	...	...	...	...	87	...	...

Note.—Corps of *Franco-tireurs* and *éclaireurs* are omitted.

The Royal Indian Marine.

A History of the Government Sea Service in India from the earliest times. (Continued.)

By Commander E. J. HEADLAM, R.I.M., F.R.G.S., F.R., MET. SOC.

During the latter part of the 18th century a small squadron of the Marine was constantly and actively employed in the Persian Gulf from Muscat to Bussorah. In 1768 a small squadron under Captain Price assisted Sheikh Nassur of Bushire in his attempt to recover the islands of Kharga and Kharrack which were in the hands of the notorious Meer Mohunna. The expedition however failed, largely owing to the cowardice of the Persians, and as the squadron was entirely inadequate without their co-operation, it was withdrawn after suffering considerable losses. In 1775 the Persian Gulf squadron consisting of the "Revenge" frigate of 28 guns, Eagle of 16 guns, and "Success" a ketch of 14 guns, was lying in the Shatt-al-Arab and assisted the Turks in the defeat of the Persians attacking Bussorah, fears being entertained that the Persian fleet, which was very considerable, might push up the river. The Marine force set to work to construct a barricade or bridge of boats across the river below Bussorah, a difficult task considering the breadth of the river and the small means at hand. They seem however to have successfully carried out the work as Parsons writes:—"Our Marine officers and men have been very active in placing the anchors, chains, and cables, and bringing their boats to their proper moorings, so as to form the bridge or rather barricade, as a sufficient number of boats could not be procured, so as to be close enough together to admit planks to be laid down from boat to boat, nor, indeed, was it necessary as every boat's bow was hauled under the chain and then fastened, and at the distance of about 60 feet another boat, and so on, quite across the river, either under the chain or cables. At the same time one of the boat's anchors and cables was carried out from the bow of each boat, and another from

the stern, so as to enable it to resist the tide, whether flood or ebb, without bearing too hard upon the anchors to which the chain and cables were fastened." Two days after the barricade was completed the squadron worked down the river and attacked and put to flight the Persian fleet which had been assembling at the mouth of the river.

The hardships endured by officers and men in the Company's ships in the Gulf at this time were very great, the ships were small and ill adapted for hot weather, the height between decks being generally insufficient for even a moderate sized man to stand upright, and cockroaches, rats, and other vermin swarmed. The ships were often in the Gulf without a change for as long as 3 years and the food was very bad, fresh supplies being scarce, indifferent salt pork and beef with mouldy biscuits forming the staple diet. Fresh water except when the ships were in the Shatt-al-Arab river was also very scarce, brackish, and unwholesome, the consequence being that officers and men alike suffered much from scurvy, fevers, boils, and other diseases.

In 1780 the ships of the Bombay Marine formed part of the squadron under Sir Edward Hughes which co-operated in the suppression of Hyder Ali; and in December two years later (1782) a squadron under Commodore Armytage, who flew the broad pennant on the "Bombay" acted in concert with General Mathews on the Malabar coast and helped to capture Rajaman-drug, Merju, Kundapur, Annanpur and Mangalore. In brief, there was hardly a naval engagement in Indian waters during the latter half of the eighteenth century in which the Bombay Marine did not play a part; and it rendered excellent service in co-operation with the ships of the Royal Navy, at the capture of Pondicherry, Trincomalee, Jafnapatam and Colombo. Among minor engagements may be mentioned two which call for special notice. In 1797 the "Vigilant" 6 guns commanded by Lieutenant Hayes had been despatched on a political mission to the Hakim of Soumiani and while crossing the Gulf of Cutch was attacked by four pirate ships, each of which was more than double her size. After three hours desperate fighting, during which she had two of the enemies' vessels on each side, the "Vigilant" managed to drive them off with great loss.

In 1800 on the 22nd of November the "Intrepid" (snow) * carrying 10 guns (6 pounders) commanded by Captain Hall fought a desperate action with a French privateer 12 guns (9 and 12 pounders) and greatly superior in size, off Muscat. Low in his "History of the Indian Navy" thus describes the action. "Between 9-30 when the first shot was fired and 11-45 a. m., the enemy, well aware of his vast superiority in men, (the "Intrepid" being, as was usual with the Company's cruisers under handed) made two attempts to run her on board and throw an overpowering force on the brig's decks. With consummate skill and coolness Captain Hall manœuvred his ship so as to baffle his adversary, while he maintained a well directed fire from his guns. Shortly before eleven the gallant officer received a mortal wound, but the action was continued by his First Lieutenant, Mr. Thomas Smee who was inspired by the indomitable resolution of his commander. The men stood to their guns with equal spirit, though latterly the action was fought within half pistol-shot, and on each occasion that the privateersmen tried to board over the stern, they repelled them with great slaughter. At length the enemy found that they had met their match, and a little before twelve the Frenchman made all sail away. The "Intrepid" was too much cut up aloft to give chase, but in half an hour her officers and crew having with commendable smartness, refitted her rigging, bent new sail, and rove new braces which had been shot away, she was under a press of canvas in pursuit. The enemy, however, owing to her superior sailing qualities, escaped. The "Intrepid" lost her captain who died on the 30th of November, and 5 men killed, and both her Lieutenants, Messrs. Smee and Best, Mr. Harriott, midshipman, the boatswain and nineteen men wounded. The crew with which this action was fought consisted of only 40 Europeans, two thirds of whom were Marine Society's boys from the "Warspite" and about the same number of sepoys and lascars."†

* A snow only differs from a brig in having the boom mainsail hooped to a try sail mast, a spar which is unknown in a brig, but which is carried in a snow close to the mast.

† Hist. of I. N. Low Vol. I pp. 209.

At this time losses however were heavy in the Marine, and much reduced the strength of the service. The "Intrepid" shortly after the action just mentioned, was despatched in company with the cruiser "Comet" to the China Seas to search for the Company's ship "Talbot" which had long been missing but nothing was ever heard of any of the three ships and their fate; whether taken by pirates or lost in cyclone or typhoon is shrouded in mystery. The "Revenge" also one of the finest vessels in the Marine, having on board a picked crew and commanded by Captain Hardy one of the most experienced officers in the service, foundered in a heavy gale with all hands. Shortly after the outbreak of war the cruiser "Scorpion" which had taken part in the blockade of Pondicherry was captured by the French on her way to England where she was taking the colours recently captured at Pondicherry. In 1803 the brig "Fly" 14 guns was also captured by the French privateer "La Fortune" 38 guns, commanded by the famous Captain Sourcouf, while carrying despatches and treasure in the Persian Gulf, Lieut. Mainwaring who commanded the brig was able however to sink his despatches and treasure and thus prevented them falling into the enemy's hands.

In August 1798 the new regulations for the service, which had been for some time under revision were finally issued by the Court of Directors. These regulations conferred relative rank with the officers in the army as well as a retiring pension for all officers. The pay of all was fixed at a certain rate, and the privilege of private trading which had up to that date been permitted to all members of the Marine service was formally prohibited. The duties of the service which up to now had been very vague and general were clearly laid down to be (1) The protection of trade. (2) Suppression of piracy and general duties as vessels of war. (3) Conveying transport, and carrying troops if necessary. (4) The prosecution of maritime surveys in the east.

A civilian superintendent who was appointed by the Directors, was placed at the head of the service, and he was assisted by two senior officers one of whom was appointed Master Attendant, and the other Commodore, and both were appointed by

the Bombay Government, these with two senior Captains formed a Marine board to administer the service. The following shows the relative rank granted to the officers of the Bombay Marine under the new Regulations.

The Superintendent of the Marine to be next to Members of Council. The Master Attendant next to the Superintendent and senior to the Commodore. The Commodore to rank with a Colonel in the army, senior Captains with Lieutenant Colonels, junior Captains with Majors, First Lieutenants with Captains, Second Lieutenants with Lieutenants. Large improvements were also made in the internal economy of the service, and several large and better found ships were built, but the difficulty of getting a satisfactory supply of Europeans for the crews seem to have been very great, and the discipline and therefore the efficiency of the service suffered much in consequence. Lieutenant Low, late Indian Navy writing of these times says "The service laboured throughout its career under great disadvantages in securing a suitable supply of seamen, and at the period of which we write (1798) it lay in the power of the commanders of the King's Ships to draft men out of the Company's cruisers, though this power was later taken away from them. Except in war time, there was great difficulty in procuring suitable hands for the ships, and, in later times, when the Indian Navy was armed with all the privileges of a Naval service, the complements of the vessels of war, so far as regarded the able bodied seamen, were maintained at their necessary strength by drafts from the jails.*

In 1802 the personnel of the the "Bombay" consisted of the Superintendent Mr. Phillip Dundas, the Master Attendant, Captain Robert Anderson, the Commodore Captain James Sutherland, 13 Captains 33 First Lieutenants, 21 Second Lieutenants, and 37 Volunteers.† The number of ships and their armament at the same was as given in the following table.

* Hist. of I. N. Low Vol. I pp. 214. 215.

† Official list of Marine Officers Jan. 1. 1802.

The Royal Indian Marine.

Description.		Name.		Guns,
Frigate	...	Cornwallis	...	56
"	...	Bombay	...	38
Sloop of War	...	Mornington	...	22
" " "	...	Teignmouth	...	16
" " "	...	Ternate	...	16
Brigs	...	Antelope	...	14
"	...	Fly	...	14
Snows	...	Drake	...	18
"	...	Panther	...	14
"	...	Viper	...	14
"	...	Princess Augusta	...	14
"	...	Princess Royal	...	14
"	...	Comet	...	10
"	...	Intrepid	...	10
Ketches	...	Queen	...	14
"	...	Rodney	...	14

Beside these vessels there were brigs and other vessels purchased into the service for special or temporary uses, as the "Swift" Star", "Les Freres", "Vins", "Alert", "Assaye", and others; and there were also some small craft and pattamars armed with guns.

Mr. Phillip Dundas the first Superintendent only retained the appointment for four years but during those four years he did much for the good of the service in general, and for the welfare of officers and men in particular. He was succeeded by Captain William Taylor Money who retained the appointment until 1813 and administered the service with as great success as his predecessor.

In 1801 several of the vessels of the Bombay Marine participated, in co-operation with the Royal Navy, in the Egyptian campaign under Sir Ralph Abercrombie, the officers and crews engaged receiving the Egyptian medal.

On the renewal of war with France the Indian Government despatched a squadron consisting of the "Bombay", 38 guns; "Mornington", 22 guns; "Teignmouth", 16 guns; and other vessels under the command of Commodore John Hayes, who flew

his broad pennant in the "Bombay", and his duties were to protect the trade in the Bay of Bengal. The following is a copy of the Commission from the Governor General in Council given to Commodore Hayes prior to his departure.

"To John Hayes Esquire Captain in the Bombay Marine. "Greeting—"Whereas open hostilities have taken place between "our Sovereign Lord the King, and the French and Batavian Republics, and whereas we, the said United Company are duly "authorized and empowered, by virtue of divers charters in that "behalf, given and granted us by the predecessors of our said "Sovereign Lord, King of Great Britain, France and, Ireland to "raise and maintain forces and armies, both by sea and land, and "to appoint such and so many generals, commanders, and other "officers as we shall think fit for the purpose of encountering and "resisting by forces of arms all and every, the enemy and enemies "of our said Sovereign Lord the King and ourselves, and the said "enemies and every of them, their ship's armour, ammunition, and "other goods to invade and destroy in such manner as in and by "the said Charters is provided, mentioned. Now we the said "United Company in consideration of the premises, and reposing "a special trust and confidence in your good conduct, loyalty, "and courage, do by these presents, and under, and by virtue of "the Royal Charter aforesaid, and all other powers in us vested, "constitute and appoint you, John Hayes, Esq., Captain in the "Bombay Marine, to be, during the hostilities aforesaid and "during our pleasure, and the pleasure of our Governor General "in Council, Commodore of all the ships and vessels employed in "our Naval and Bengal Marine Service, for and under our Presidency of Fort William in Bengal, and of all our regular, extra, "and freighted ships whatsoever, wheresoever you shall fall in with them, and to take the command of the same as Commodore with the same authority as belongs to the Office of "Commodore in the Naval service of our said Lord the King, "and in the same manner as used in the said service, and to be "Captain of the Bombay ships of war to be employed in our said "Naval and Marine service, against the said French and Batavian "Republics, and all other nations and people, against whom you "may and shall be lawfully commanded to act during such

"hostilities, either by proclamation issued by our Governor General in Council or by orders from our said Governor General in Council specially to you directed. You are therefore duly to command, exercise, and keep in order and discipline, all commissioned officers, warrant officers, seamen and others subordinate to you, according to such authority, rules, powers, and provisions, as in and by the said Charters, are mentioned, and contained, and as legally may be done, and we do hereby command them to obey you conformably thereto as their Captain, in which station you are to observe and follow all such orders and directions as you shall receive from time to time from us, our Governor General in Council for the time being, in pursuance of the trust hereby reposed in you; and we do by these presents authorize and empower you, John Hayes, Esq, by force of arms or otherwise, to apprehend, sieze, and take the ships and goods belonging to the said French and Batavian Republic and all and every their subjects and people, being enemies of our said Lord the King, and of ourselves, pursuant to the power and with in the limits in the said Charter for that purpose mentioned and prescribed, and to bring the same to such port as shall be most convenient, in order to have the same legally adjudged and condemned as prizes. In witness whereof our Governor General in Council has hereunto set our Common Seal."

(Signed) "Wellesby"
"Barlow"
"Udney"

During the three years that Commodore Hayes commanded this squadron it is a noteworthy fact that not one British merchant vessel fell into the hands of the enemy within the limits of his authority. One of the chief engagements fought was the recapture of the Fort of Mucku on the coast of Sumatra, which fell by assault after three days cannonading by the "Bombay" and "Castlereagh." Commodore Hayes, who was one of the most distinguished of all Marine officers, was in 1808 appointed Deputy Master Attendant and Secretary of the Marine board in Bengal, and finally became Master Attendant. During the years he was in Calcutta he did much to improve the post and was a most successful administrator.

In 1805 the Bombay Marine frigates "Cornwallis" 56 guns and "Bombay" 38 guns were handed over to the Royal Navy, but against this reduction to the service there was a considerable increase in smaller ships and between 1805 and 1810 the following vessels were built in Bombay for the service. "Prince of Wales," "Mercury," "Benares," and "Aurora," sloops of war of 14 guns; "Nautilus" brig, 14 guns, "Vestal" "Ariel" "Psyche" and "Thetis" 10 gun brigs, and the "Sylph" schooner, 8 guns.

In 1810 a squadron of the Bombay Marine consisting of the "Malabar" and "Benares" 14 guns, and the "Thetis," "Ariel" and "Vestal" 10 gun brigs, under the command of Captain R. Deane of the "Malabar" co-operated with the squadron of the Royal Navy under Admiral Bertie in the operations which resulted in the capture of the island of Mauritius, and of the French ships in Port Louis, receiving, at the conclusion of the operations a special letter of commendation from the Naval Commander in Chief. Almost immediately after the return of this squadron to Bombay a squadron was again fitted out for active service, this time to co-operate with the Naval and Military forces in the conquest of Java. The chief command was given to Sir John Hayes who hoisted his broad pennant as Commodore on board the "Malabar" and who had resigned his appointment as Master Attendant at Calcutta in order to place his services at the disposal of the Governor General. The squadron consisted of the "Malabar," 20 guns, Captain Maxfield; "Mornington" 22 guns, Captain Robert Dean; "Aurora" 14 guns, Commander Watkins; "Nautilus" 14 guns, Commander Walker; "Vestal" 10 guns, Commander Hall; "Ariel" 10 guns, Commander Macdonald; "Thetis" 10 guns, Lieutenant Phillips; and "Psyche" 10 guns, Lieutenant Tanner. There were also 57 hired transports fitted out by the Marine, and several gunboats bring the total up to nearly one hundred sail. All the officers and men engaged in this expedition received the medal, and the Governor General in Council in a letter to Commodore Hayes dated May 2nd 1812 conveyed to "the captains, officers, and men, composing the squadron of the Marine employed under your orders the expression of His Lordship's high approbation and applause."

Also in a despatch to the court of Directors, Lord Minto, while in Java, on October 5, 1811 wrote as follows "I cannot conclude this dispatch without indulging myself in the satisfaction of bearing testimony to the zeal and good conduct displayed by Commodore Hayes, and the captains, officers, petty officers and men employed in this important expedition" Great bitterness was however felt by the officers and men alike when the rewards and honours for the expedition were given and nothing fell to the share of the Marine. Admiral Stafford had personally thanked the officers and men who had served under him, but he apparently omitted any mention of the Marine in his despatches, and this caused much ill feeling and bitterness between the two services.

Two years after the capture of Java a small squadron consisting of the "Malabar," "Teignmouth" and "Aurora" were employed in the expedition undertaken against Panjeram Annam Sultan of Sambas, again in co-operation with a squadron of the Royal Navy, and military forces embarked on board the ships. The expedition was successful and the losses in action few, but the climate seems to have been extraordinarily unhealthy and the losses by sickness were enormous. Low in his "History of the Indian Navy" writing of this expedition says "Though the loss in action was not considerable, the climate made dreadful havoc. A large number of the 14th Regiment died from fever and the ships of war also suffered to a similar extent. The "Malabar" and "Aurora" lost many men, but the "Teignmouth" which remained after the others had left for Java was the greatest sufferer. Out of a crew of seventy five Europeans she lost two thirds, the natives on board suffering in an equal proportion, and, at one time, she had only one officer and eight or ten men fit for duty. So fatal were the effects of this expedition on the officers of the Bombay Marine, owing chiefly to the long-continued exposure on boat duty during the blockade of the coast and in the operations up the Sambas river, that, out of twenty two officers in the Company's ships, within a few years of their return to Bombay, only two remained in the service, the rest having died or been invalided.*

* Hist. of I-N-Low Vol-I-pp-260

From the capture of Java until the island was given up to the Dutch by the British Government in 1816 a squadron of the Company's vessels was constantly employed protecting the trade from the hordes of pirates which abounded in the Straits of Malacca and amongst the numerous adjacent islands. During the period the squadron had been stationed in these seas the ships had taken part in five important expeditions, namely the conquest of Java and the operations against Palimbag, Samarang, and Boui. Meanwhile on the western coasts of India continuous warfare was being waged against the pirates of these parts, and expeditions were successfully carried out against Beit when the coasts of the Gulf of Cutch were blockaded, and many pirate vessels were seized and destroyed.

On the 30th of June 1815 after peace had been declared with America, the Company's brig "Nautilus" 180 tons 14 guns with a crew of 30 European officers and seamen and 40 marines and lascars, fell in with the American full rigged ship "Peacock" 535 tons, 22 guns and 184 men. According to the official account by Commander Charles Boyce, commanding the "Nautilus" the captain of the "Peacock" demanded his immediate surrender, and entirely ignoring his protests that peace had been declared, opened fire on the "Nautilus." The fire was returned and a brisk action was fought, until Commander Boyce finding the contest too unequal, and having lost many officers killed and wounded, and being himself severely wounded, reluctantly hauled down his flag. The "Nautilus" was then taken to Anjir, and the next day she was restored by Captain Warrington of the "Peacock" who at the same time wrote the following letter to the Master Attendant at Anjir."

From Captain Warrington to Mr. Macgregor, Master Attendant, Anjir: July 1st 1815.

"Sir,—In consequence of the information received from you, and the several different sources from which I have heard that a peace had been concluded between the United States and Great Britain, I feel myself bound to desist from hostilities and regret that my reasonable demand had not been complied with by the Commander of the "Nautilus" brig yesterday afternoon.

Respectfully, your obedient servant,
L. WARRINGTON, Captain, U. S. Navy.
Commanding the U. S. Sloop-of-war "Peacock."

In 1814 a table of precedence in India was fixed by the warrant of the Prince Regent, and in this the Superintendent of Marine came immediately after Generals and Flag Officers (above the rank of Major General); Commodores after Post Captains R. N. (of over 3 years service) senior Captains after Captain R. N. (of less than 3 years service) Commanders after Members of the Medical board, Lieutenants after Chaplains.

During the years 1817-18 the "Prince of Wales" commanded by Lieutenant Dominicetti, "Thetis," Lieutenant Arthur, "Sylph" Lieutenant Robinson, and some small craft were employed during the Maratha war, and took a conspicuous part in the capture of the forts on the coast of Concan. At the attack of the fort of Severndroog on December 4th 1817 the escalading party consisted of 30 seamen led by Lieutenant Dominicetti of the "Prince of Wales" and 50 sepoy's under Captain Campbell of the 9th Regiment. The attack was entirely successful and seems to have so intimidated the enemy, that in the same night the forts of Goa and Gunjeira were abandoned. In the same expedition after the attack and capture of the forts of Madanghur and Jampah, Lieut.-Colonel Kennedy who was in command issued the following order.

"To Captain Farquharson, Lieutenants Dominicetti and Cogan of the Marine, to the seamen, native officers, and soldiers, volunteers for the storming party, Lieutenant-Colonel Kennedy offers his most sincere acknowledgement for the intrepid and gallant manner in which they assaulted the triple stockade in front of the communication to the gateway, and carried by escalade the two forts of Madanghur and Gampah. For the excellent plan of attack laid down in yesterday's order and so gallantly carried into execution this morning Lieut.-Colonel Kennedy is indebted to Captain Farquharson of the Marine, who opposed and principally arranged it. Neither can the Lieut.-Colonel pass over unnoticed the excellent conduct of Lieut. Waddington who converted successfully into a real attack what at first was intended only to be a feint."*

*Portion of dist. orders by Lieut-Col. Kennedy dated February 1818.

The Governor also in his order of March 17th 1818 said "The manner in which the enterprise was planned and so ably and spiritedly conducted by a detachment, not exceeding half the number of the garrison, is highly creditable to Lieut.-Colonel Kennedy and all the officers and men of the Honourable Company's Military and Marine Services employed, and it is gratifying to observe that during these operations, the success of which so much depended on the united exertions of the two branches of the service, the most perfect cordiality has existed."

The early part of the 19th century was a time of great activity in ship building in the Bombay dockyard, under the auspices of the great Parsi builder Mr. Jamsetjee Bomanjee and his successor. The durability of the teak wood, the excellence of design, and the cheapness of construction caused the British Naval authorities to have many vessels of war built for the Royal Navy, amongst the most famous of which was the Ganges battleship 92 guns, 2,289 tons which was afterwards the flagship of Sir Edward Corington at the battle of Navarino. An instance of the strength and durability of the Bombay built ships of this period is given in a letter from the first lieutenant of the Bombay built frigate "Salsette" to the builder Mr. Jamsetjee, in which he asks him "to accept the accompanying clock as a small mark of esteem, and kind of remembrance that under Divine Providence, his professional abilities were the happy means of preserving Mr. Henderson, and the rest of the crew of H. M. S. "Salsette" from what appeared to the human eye unavoidable destruction; that ship, with five other small vessels of war, and twelve valuable merchantmen under their convoy, being beset by the ice in the Baltic sea in the winter of 1808-09 and she alone escaped shipwreck." In addition to the usual ship building progress for the Bombay Marine, and the building of some vessels for the Imaum of Muscat, no fewer than twenty two ships of war of various sizes were built for the Royal Navy in the Bombay dockyard between the years 1800 and 1840.

The following table gives them in detail and order of date of launching, and it will be seen that there were as many as 9 battleships of large size amongst the number.

The Royal Indian Marine.

Name.	Description.	Guns.	Tons burden.	Date of Launch.
Pitt	... Frigate	... 36	872	17-1-1805
Salsette	... "	... 36	885	24-3-1807
Minden	... Battleship	... 74	1681	19-3-1110
Cornwallis	... " "	... 74	1767	2-5-1813
Victor	... Brig	... 18	384	29-10-1814
Sphinx	... Brigantine	... 12	239	25-1-1815
Wellesley	... Battleship	... 74	1745	24-2-1815
Zehra	... Brig	... 18	385	18-11-1815
Cameleon	... Brigantine	... 12	239	16-1-1816
Amphitrite	... Frigate	... 38	1064	14-4-1816
Melville	... Battleship	... 74	1767	11-2-1827
Tricomalee	... Frigate	... 38	1065	19-11-1817
Malabar	... Battleship	... 74	1715	28-12-1818
Seringapatam	Frigate	... 38	1152	5-9-1819
Ganges	... Battleship	... 92	2284	10-11-1821
Madagascar	... Frigate	... 46	1166	31-9-1822
Asia	... Battleship	... 84	2289	17-1-1824
Bombay	... " "	... 84		17-3-1828
Andromache	... Frigate	... 38		1839
Calcutta	... Battleship	... 84		1831
Nerbudda	... Brig	... 16		1848
Jumna	... "	... 16		

In the year 1820 the Government despatched a combined Naval and Marine force to lay siege to the town of Mocha, for disregarding the ultimatum presented by the British Government demanding the punishment of the ringleaders of the gang, who had ransacked and pillaged the Residency, after beating and nearly murdering Lieut. Dominicetti and the captain of an Arab vessel.* The attack commenced on December 4th but it was not until the 20th that the forts were finally subdued, and a treaty under the following terms was concluded. Lieut. Robinson of the Company's Cruiser "Antelope" being appointed Resident.

* His : Arabia Felix or Yemen Playfair.

- (1) That the Resident should have a guard of the same strength as at Bassorah or Bagdad to ensure his respectability.
- (2) That all servants of the factory should enjoy British protection, and be amenable only to the jurisdiction of the Resident.
- (3) That all Indian merchants should be under the protection of the British flag, and differences amongst themselves be settled by the Resident, or in the event of any of the Imaum's subjects being concerned in the disputes, by an agent on the part of the local Government and the Resident conjointly.
- (4) That the Resident should be exempt from all degrading compliances; that he should have liberty to ride on horseback when and wherever he pleased, and have free ingress and egress at all the gates of Mocha, amongst others, that of Sheikh Shaduli, from which Europeans had been excluded for some years past, on account of the pretended sanctuary it derived from the tomb of that saint being in an adjoining mosque.
- (5) That the rate of export duty of British trade be reduced from $3\frac{1}{2}$ to $2\frac{1}{2}$ per cent which was the same as the French had paid since they bombarded Mocha nearly a century previously.
- (6) A piece of ground to be allotted for a cemetery and no British subject to be insulted on account of his religion.
- (7) The British Resident to have free permission to proceed to Sanaa to communicate with the Imaum, whenever he might deem it necessary; the Dowlat of Mocha, on these occasions, furnishing an escort.

At the conclusion of the operations off Mocha Captain Lumby the senior Naval officer issued the following despatch.

H. M. S. "Topaze" off Mocha December 21st 1820

"The gallant and spirited conduct displayed by the captains and commanders, and the officers and seamen, artillery, and sepoys, of the Company's cruisers under my orders, during the

late arduous attack and destruction of the forts of Mocha, having met my warmest approbation, I take the present opportunity of conveying my high sense of their very meritorious services on that occasion ; and I am to request that the respective captains will signify the same to them respectively, and to assure them that I shall not fail to represent their gallant behaviour to the H. M. Company's Government accordingly. I have also to return my warmest thanks to Lieut. Jacob, of the Artillery, for the great precision with which the shells were thrown by him into the Town and forts of Mocha ; as also to Lieut. Tanner, of the H. M. Company's Marine, who so willingly offered his services and who proved particularly useful, and whose behaviour was highly meritorious, during the late arduous attack above mentioned "

(Sd.) C. R. LUMBY,
Captain and Senior Officer.

In this year, and the years immediately following, many alterations and improvements were made in the conditions of service and prospects of officers, also the following alterations in the uniform of officers, " Commodores to wear two gold epaulettes with a silver lion and two stars each; senior Captains, two gold epaulettes with a silver lion and one star on each ; junior Captains, two gold epaulettes with a silver lion only on each; Commanders, two gold epaulettes plain; First Lieutenants one gold epaulette on the left shoulder. It is further directed that the undress of all Officers (with the exception of the Commodore) be without lace ; and that the undress of the Commodore be distinguished by two rows of broad gold lace on the collar only; and that the full dress of all officers remain the same as it now is, with the addition of the epaulettes of their ranks respectively.* Four years later the rank of Commander was abolished and an increased number of senior and junior Captains were created. At the same time the following rules for retiring pensions were drawn up in the Government order of September 30th 1824. Marine officers who have served 22 years in India 5 years of which either as Master Attendant or Commodore £ 450. Senior

* Minute of Council May 24th 1820.

Captains £360. Junior Captains £270, (increased in 1826 to £293) First Lieutenants £180 (increased in 1826 to £192). Officers invalided after 10 years service to receive half of the retiring pension of their rank.*

During these earlier days of the 19th Century the important work of marine surveying had been continuously carried on.

A Marine Survey Department was established in Bengal in 1908, Captain Wales of the Bombay Marine being appointed the first Surveyor General, and much important work was carried out in the Bay of Bengal by the "Assaye" the "Panther" and the "Antelope." In the year 1808 Captain Horsburgh, hydrographer to the Company, published the first edition of his East India Directory, which was largely based upon the surveys carried out by officers of the Bombay Marine. In 1806 Lieuts. Daniel Rose and Philip Maughan sailed for the China seas to carry out surveys and to endeavour to ascertain the fate of the Company's ships "Intrepid," "Comet" and "Talbot" which were supposed to have been lost on the Paracel Islands. They surveyed the coasts east and west of Macao, from Tienpak westward to the Lema Islands eastward, and made separate surveys of the Paracel Islands and shoals, though no signs were found of the missing ships. Their surveys were however delayed owing to the capture by the French of the "Antelope" and the imprisonment of Lieutenants Ross and Maughan in Batavia.† After their liberation in 1812 Ross (now Captain) was again despatched in charge of a surveying expedition to the China seas accompanied by Captain Maughan and was afterwards joined by Captain Crawford. Extensive surveys were carried out, which included a portion of the east coast of China from the great Lema of Namoa Islands, with part of the Pescadores and the Island of Formosa. They also accompanied Lord Amherst's Embassy to the Gulf of Pecheli and made surveys of parts of the coasts and of the harbours in the province of Shantung. In 1818 Captain Ross and his assistants surveyed the entrance to the straits of Malacca returning to Bombay in 1820. In 1811 the "Ternate"

* Hon. Court despatch August 20th 1824.

† *Hist. of I. N. Low* 1p. 395.

and the "Sylph" under Captain Surce surveyed the east coast of Africa as far as South Zanzibar. In 1811 Captain Court, who had been for some years Director General of Surveys died, and was replaced by Captain Daniel Ross F. R. S. who did much to encourage scientific surveying, and during whose reign of office many important surveys were carried out, chief among which was a systematic survey of the Persian Gulf and neighbouring seas which was carried out by Lieutenants Wellstead, McCheer and Haines. In the scheme of retrenchment which Lord William Bentinck formulated in 1828, the Marine Survey department was practically abolished; but so important was its work acknowledged to be that in 1830 two brigs were again commissioned for survey duties. With reference to Wellstead's later surveys of the coasts of Arabia it is interesting to record that in 1895 the officers of the R. I. M. S. "Mayo" whilst cruising on the South Arabian coast discovered a bottle at a place called Hasn-al-ghorab which had been left by Wellstead when surveying in the "Palinurus" in 1844. The bottle was unfortunately broken and the paper very brittle and it was not possible to make out the whole of the writing, but the name of the ship, the date, and some of the officers names were clearly decipherable.

As in the latter days of the 16th century, so in the early days of the 19th the small ships maintained by the Bombay Marine in the Persian Gulf, were engaged in almost constant warfare with the pirates, chief amongst which were those of the Joasmi coast, but it was not until 1819 that a really serious endeavour was made to exterminate them. Previous to this the orders of the Bombay Government were that the ships were not to attack the pirates but only to act in self-defence. The pirates taking this as an acknowledgement of weakness became more and more open in their attacks, and not content with attacking merchant vessels, in 1808 they attacked the Company's cruiser "Fury" carrying despatches from Busso-rah to Bombay, and were only driven off after a desperate action had been fought. Instead of the action causing the Government to take steps to prevent a repetition of the outrage, the Governor at Bombay, on the Captain of the "Fury" reporting the affair,

administered to him a severe reprimand "for disobeying the orders given, and daring to molest the innocent and unoffending Arabs of these seas." After this the attacks on the Company's ships became frequent, and small, illfound and ill-armed, they could offer little resistance and administer no punishment to the pirates who had as many as 50 or 60 ships, well armed and swarming with men, which swept the seas almost unopposed from the north of the Persian Gulf to the west coast of India. An idea of the class of vessel which formed the small squadron of the Marine in the Persian Gulf in those days and the condition in which they were kept, is given by Low in his "History of the Indian Navy." Giving an account of the "Ariel" which foundered in a "shamal" with a loss of 78 out of a total 83 he says "The "Ariel" was a deep-waisted chest like a brig, of a class common in the Royal Navy at the close of the revolutionary war which from the frequency of their foundering, were known as "Coffins" or "Deaths," and were employed up to so recent a date as the year 1839, in carrying the Government mails across the Atlantic, where they fully maintained their unenviable characteristic of foundering or capsizing in a stormy sea. It was found, on subsequent inquiry, that the "Ariel" had been condemned as unseaworthy before Mr. Meriton, the Superintendent, sent her on her last cruise. On her arrival at Muscat the mainmast was found to be so rotten from step to cap that it was a wonder it had not saved the crew the trouble of hoisting out, by going over the side; it was replaced by a crooked spar presented by the Imaum, which was a few feet shorter than the foremast. However no spars or other appliances could have saved the "Ariel" which foundered, like other brigs of the so called "Coffin" class, owing to her build, though this did not exonerate the Superintendent who sent her on a cruise in an unseaworthy condition."*

In 1819 the condition of affairs in the Persian Gulf had come to such a pass that the Bombay Government at last determined to take decisive steps to exterminate the pirates, and a combined Naval, Military and Marine expedition was formed. The troops consisted of 3,069 men under Major General Sir William Grant

* Hist. of I. N. Low. Vol. I. pp. 369-370.

Keir. The Naval squadron consisted of H. M. S. "Liverpool" 50 guns Captain F. A. Collier C.B. senior Naval officer and H. M. S. "Eden" and "Curlew." The Marine squadron was composed of the "Teignmouth" 16 guns, Captain Hall, senior officer, "Benares" 16 guns, Commander Arthur; "Aurora" 14 guns Commander Maillard; "Nautilus" 14 guns Lieut. Faithful; "Ariel" 10 guns Lieut. Watson.

On November 28th the troops were landed and the attack of the Arab stronghold of Ras-ul-khymah commenced. The guns of the larger ships were of little use as it was impossible for them to get near enough to the forts, but a large Naval brigade was landed together with guns to assist in the attack, while the small light draft vessels, "Aurora" and "Nautilus" were able to get close in and materially assist in the attack. The forts were strong and the defence stubborn, and it was not until the 8th of December that a breach having been formed the town was carried by assault. After the action the senior Naval officer in his report to the Government of Bombay wrote "To Captain Hall, the senior officer of Marine, and the officers and crews of the H. M. Company's cruisers, every praise is due for their unremitting exertions, both on shore and afloat." After the fall of Ras-ul-khymah the neighbouring chief towns were destroyed, and the fleet made a cruise of the Joasmi ports destroying their ships and blowing up their forts, until their power had been entirely reduced. In 1820 on the 8th of January a general treaty of peace was signed at Ras-ul-khymah between Major General Sir William Grant Keir, on the part of the British Government, and nearly all the chiefs of the maritime tribes of Arabs in the Persian Gulf. The following is the wording of the treaty, which as well as suppressing the piracy in the Gulf, put a stop to the slave trade by the terms of article 9.

"In the name of God the Merciful, the compassionate! Praise be to God, who hath ordained peace to be a blessing to his creatures! There is established a lasting peace between the British Government and the Arab tribes, who are parties to their contract, on the following conditions:—

Art. 1. There shall be a cessation of plunder and piracy by land and sea, on the part of the Arabs who are parties to this contract for ever.

- Art. 2 If any individual of the people of the Arabs contracting shall attack any that pass by land or sea, of any nation whatever, in the way of plunder and piracy and not of acknowledged war, he shall be accounted an enemy of all mankind, and shall be held to have forfeited both life and goods; and acknowledged war is that which is proclaimed, avowed, and ordered by Government, and the killing of men and taking of goods without proclamation, avowal, and the order of Government, plunder and piracy.
- Art. 3 The friendly Arabs shall carry, by land and sea a red flag, with or without letters in it, at their option; and this shall be in a border of white, the breadth of the white in the border, being equal to the breadth of the red, as represented in the margin, the whole forming the flag known in the British Navy by the title of "white pierced red;" and this shall be the flag of the friendly Arabs, and they shall use it, and no other.
- Art. 4 The pacificated tribes shall all of them continue in their former relations, with the exception that they shall be at peace with the British Government, and shall not fight with each other; and the flag shall be a symbol of this only, and nothing further.
- Art. 5 The vessels of the friendly Arabs shall all of them have in their possession a paper (register) signed with the signatures of their chiefs in which shall be the name of the vessel, its length, breadth, and how many karaks it holds; and they shall also have in their possession another writing (port clearance) signed with the signature of their chief, in which shall be the name of the owner, the name of the Nakhooda, the number of men, the number of arms, from whence sailed, at what time, and to what port bound; and if a British or other vessel meets them, they shall produce the register and clearance.
- Art. 6 The friendly Arabs, if they choose, shall send an envoy to the British Resident in the Persian Gulf,

The Royal Indian Marine.

with the necessary accompaniments, and he shall remain there for the transaction of their business with the Residency; and the British Government, if it choose, shall send an envoy to them also in like manner, and the envoy shall add his signature to the signature of the chief, in the paper (register) of their vessels, to contain the length of the vessel, its breadth, and tonnage, the signature of the envoy to be renewed every year, also all such envoys shall be at the expense of their own party.

- Art. 7 If any tribe or others shall not desist from plunder and piracy, the friendly Arabs shall act against them according to their ability and circumstances; and an arrangement for this purpose shall take place between the friendly Arabs and the British at the time when such piracy occur.
- Art. 8 The putting men to death after they have given up their arms is an act of piracy, and not of acknowledged war; and if any tribe shall put to death persons, either Mahomedans or others, after they have given up their arms, such tribe shall be held to have broken the peace, and the friendly Arabs shall act against them, in conjunction with the British, and, God willing, the war against them shall not cease until surrender of those who performed the act, and of those who ordered it.
- Art. 9 The carrying off of slaves (men, women, and children) from the coast of Africa or elsewhere, and the transporting of them in vessels, is plunder and piracy; and the friendly Arabs shall do nothing of this nature.
- Art. 10. The vessels of the friendly Arabs, bearing their flag above described, shall enter into all the British ports, and into the ports of the allies of the British, so far as they shall be able to affect it, and they shall buy and sell therein; and if any shall attack them, the British Government shall take notice of it.

Art. II. These conditions aforesaid shall be common to all tribes and persons who shall hereafter adhere thereto, in the same manner as to those who to them at the time present.

Issued at Ras-ul-khymah in triplicate at midday on Saturday, the 8th of January 1820, and signed by the contracting parties at the place and times under written.

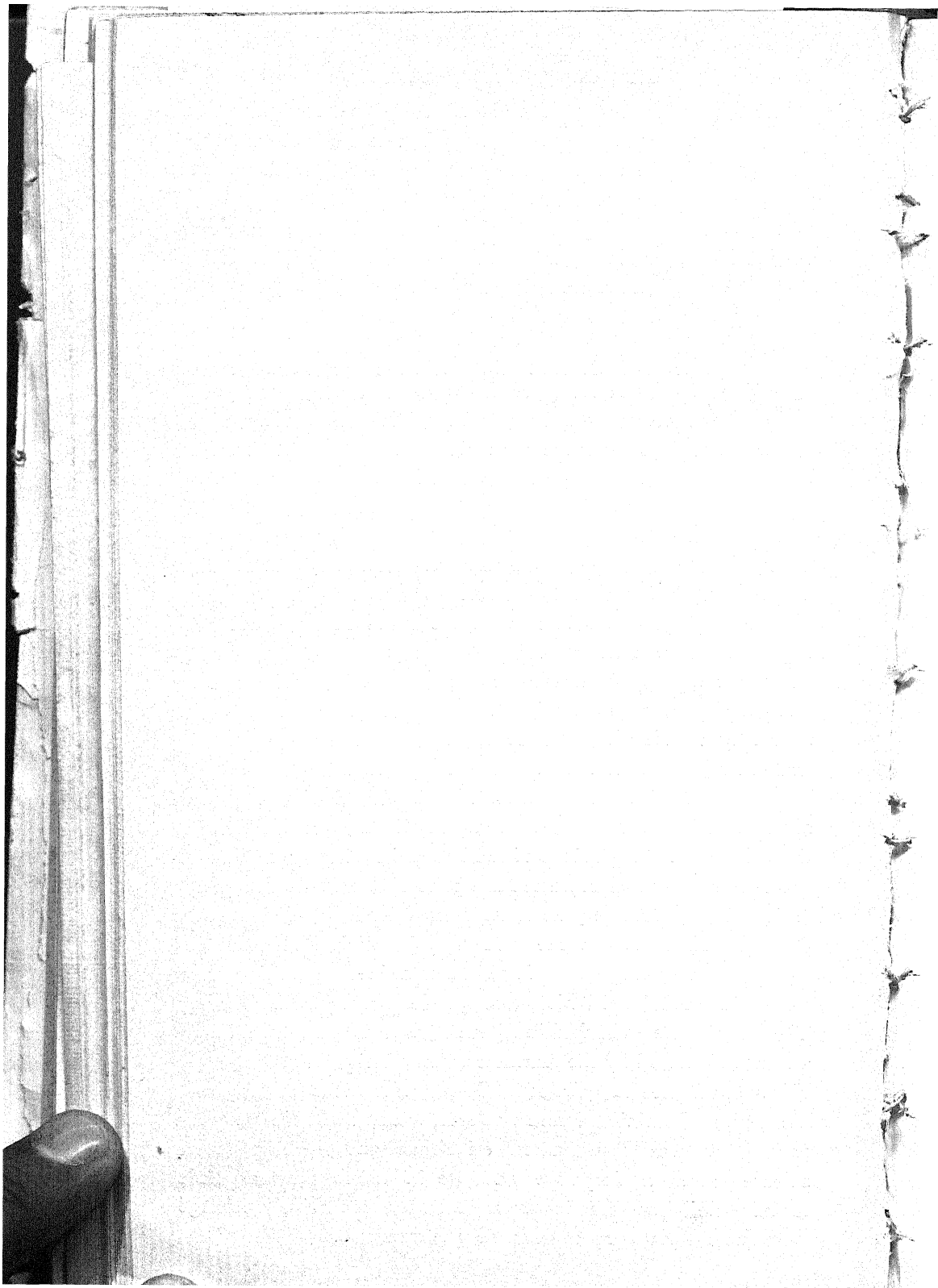
Signed at Ras-ul-khymah, at the time of issue by
W. Grant Keir, Major General

Hussan-Bin-Rahmah, Sheikh of Hatt and Faleia,
formerly of Khymah.

Razib-Bin-Ahmed, Sheikh of Jeizerat-ul-Humrah."

At the conclusion of the hostilities in the Gulf, the Governor of Bombay in issuing a general order, wrote as follows of the services of the Bombay Marine: "The conduct of Captain Hall, and of Lieutenants Maillard, Arthur, Faithful, Greenway and Watson, in command of cruisers, and of Lieutenants Seawright and Brucks, and the officers and men of the H. M. Company's Marine, employed on this service, have been spoken of in terms of high commendation by the Major General, and also by Commodore Collier, whose established reputation and experience of the qualifications that distinguish the Naval profession, renders his testimony to the character of the Bombay Marine of peculiar value in the estimation of the Governor in Council."

Shortly after the destruction of the Joasmi pirates, trouble arose with the Beni-boo-ali (Beni-ibn-ali) Arabs a warlike tribe who resided in the province of Joalan in the vicinity of Ras-ul-Had. The Arabs had murdered the pilot of one of the Company's cruiser, and had severely defeated a combined expedition under Captain Thompson of the "Mercury" which had proceeded against them. Accordingly in 1821 a combined expedition under Major General Lionel Smith, c. b. was despatched from Bombay. The troops were embarked in fifteen transports and ten baghalaahs and were escorted by the Marine cruisers "Teignmouth" Captain Hardy; "Prince of Wales" Commander Stout; "Psyche" Lieutenant Dominicetti and "Vestal" Lieut. Robinson. The expedition was disembarked off Sohar and the Arabs were defeated after a desperate struggle in which they are said to have left 500 dead and wounded on the field, with 236 prisoners out of a total of less than one thousand.



Lecture on "The Home System of Recruit Training and Man-Mastership."

GIVEN AT LUCKNOW, BY CAPTAIN O. C. WILKINSON.

The East Yorkshire Regiment.

The general scheme of Recruits training was, I think, founded on the results obtained by Colonel Pollock's system in training the "Spectator" Experimental Company.

The "Spectator" wishes to prove that it was possible to turn out in six months a fully trained company ready to take its place in the battalion. The experiment, I believe, was most successful. The men of this company were not specially selected nor above the average in intelligence.

All the same they came of a good class of man, and were far better material to get good results from, than is the ordinary young man who presents himself to the recruiting officer. Also they came voluntarily. Of course all recruits are supposed to come voluntarily, but actually tightness in the labour market is a form of compulsion that makes many men and boys enlist who have no desire for a soldier's life. The number who enlist for the pure love of soldiering is relatively small. The lower classes in England have a traditional horror of the army. In fact in many villages for a man to say his son has "gone for a soldier" or "has listed" is the same to his hearers as if he said he had gone to the dogs. The chief inducements for men to enlist, taken in the following order, are:—

- (1) Necessity for employment.
- (2) To get out of a scrape at home.
- (3) Attracted by the smart uniform
- (4) Having been previously connected with the regiment.
- (5) Attracted by a soldier's life.

By the above it is seen that the mind of the recruit is not as a rule best calculated to benefit by the instruction it receives.

Finding his immediate needs provided for he is liable to lapse into a condition of complete indifference to his subsequent career. Means must be found to interest him and it is part of the instructors job to find holes and cracks in this armour of indifference through which he can be inoculated with military genius.

The means at the instructor's disposal consist in :—

(1) Drumming the subject into the recruit by frequent repetition, this of course is the usual means of teaching the handling of arms and drill.

(2) *Exciting the instinct of competition and emulation.*—This can be effected by promoting the more efficient into more advanced squads and giving them slight advantages over the others.

(3) *Rewards and Prizes.*—The most coveted reward for proficiency should be the promotion of the recruit to the acting lance stripe. His duties need only be nominal such as reporting the squad present on parade and marching them backwards and forwards to their work. This gives him some small authority at the time, and on joining his battalion gives him the first claim to promotion among his contemporaries.

There should also be frequent small prizes for proficiency in musketry and physical training, boxing, bayonet fighting and other sports.

The advantages of obtaining certificates of education should also be impressed on him.

(4) *The Personal influence of the Instructor.*—This is a great asset, but it is hard to define. It certainly is not always the best N. C. O. who turns out to be the best instructor. It is the man who can put himself on the recruits level, and therefore junior N. C. O's. often turn out better squads than the more senior.

The Depot Organisation.—The depot consists of a fairly large staff available most of the year for the training of recruits.

System of Recruit Training & Man-Mastership. 267

It is commanded by a major who is also the O. C. the Regimental Recruiting Area. Under him are :—

An adjutant who is also recruiting officer.

A quartermaster.

3 captains and 2 subalterns.

1 sergeant major, about 16 sergeants and corporals as instructors and 40 trained men,

The general duties are :—

The major and the adjutant do the office work of which there is a considerable amount.

The senior captain is in charge of the institutes, the messing and generally supervises.

The other captains, assisted by the subalterns, command two companies.

The duties of the officers consist in a general supervision of instructors and the training of new instructors.

They also lecture the more advanced squads and conduct the monthly "Tests," a subject which I will deal with later on.

The training of the recruit rests almost entirely on the efficiency of the N. C. O. instructors. The officer however efficient is too highly polished—he cannot think down to the recruits level. He cannot help using words of which the recruit does not know the meaning. In fact in Yorkshire, and no doubt in other parts of England recruits join who don't understand ordinary English and when questioned by an officer have not the smallest idea what he is talking about. They are also extremely nervous in his presence.

The N. C. O's., are specially selected for the training of recruits and the officer commanding the depot has power to refuse any he thinks unsuitable or to return them to their regiments if he finds them inefficient. They come to the depot for two years and in special cases can be retained for three. On first joining the depot they are put as supernumeraries to some other instructor. They also attend lectures on their duties, given by the officers and the sergeant-major. They are put through a short course of physical training and bayonet fighting to enable them to give some instruction to the recruit in addition to what is given by the gymnastic instructor. All physical

training is in charge of an instructor of the Army Gymnastic Staff who is only responsible to the Inspector of Gymnasia. N. C. O's. attend the physical training of recruits for disciplinary purposes and also with the idea that they should improve their knowledge of the recruits character and capabilities. It is a principle that the instructor should always, be with his squad whatever it is doing.

The 40 trained men.—These men are sent to the depot to do the fatigues, etc., and incidentally to teach the recruit the customs of the service. They are all men of good character and as a rule set the recruit a very good example. They are a most valuable addition to the depot staff, as owing to their presence the recruit is able to complete a continuous course of training without being taken away from his squad to perform the necessary fatigue work.

The duties of the sergeant-major differ little from those in a battalion, but in addition he has the duty of squading the recruits and arranging the monthly test. For this purpose a "test book" is kept up.

The name of every recruit as he joins is entered in this test book. In it are columns for every subject in which the recruit is trained. He is examined or "tested" monthly, and either "passed" or "not passed" is entered against his name in each subject. There is also a column for remarks in which are entered notes on the recruits abilities such as "no education" "very slow" "good writer" etc. These records are not of much value when the recruit leaves the depot, but they serve the purpose of making their instructor study the character of each individual and of generally keeping the instructors up to the mark. They are also necessary to enable the sergeant major to re-squad the men at the commencement of a fresh month's work. I have mentioned that the same instructor should remain with the squad throughout its training. That is to say he should remain with the majority of his squad but this does not prevent the more proficient being sent to a more advanced one, or the backward recruit being left behind. It is the duty of the instructor to make himself thoroughly acquainted with the character

and previous occupation of each recruit. Of course all conditions of men enlist and represent all kinds of professions and occupations. For military purposes there are very few civil qualifications which cannot be turned to some account. One man joins, who the instructor finds out, has been a poacher. He has probably every qualification for a good scout, he can find his way about country by day or night and knows how to move secretly and noiselessly.

Another has been a fisherman, he is probably a handy man and may be able to read a compass and find his way by the stars.

Another man has been in motor works, he knows something of engines and mechanics, he will pick up the machine gun quicker than the yokel. A bricklayer's apprentice will build better sod revetments than any other man in the squad, while a miner will dig the best trenches. In the old days the aim of the instructor was to turn out men of one stamp who would be like as peas and give a nice level appearance to a regiment. The modern idea is to develop each man's individuality and train him along the lines of least resistance. N. C. O's. very soon become experts at recruits training but they require some instruction themselves at first.

They require to be taught the general system of training and must know their work very thoroughly. They should frequently be lectured by officers, especially in military history and general knowledge, subjects which it is difficult for them to read up for themselves. It must be borne in mind that the officer should give his instruction to the recruit through the N. C. O. The instructors also require a good deal of supervision and keeping up to the mark. The British N. C. O. is a conservative individual and lives on tradition.

He has very fixed ideas of what work and how much of it, he should do. Now these ideas do not always coincide with modern methods and the officer has to overcome a considerable amount of prejudice and objection before he can introduce new ideas. Also the N. C. O. is very inclined to lapse into his old ways if not kept up to the mark. In modern business firms such as Harrods and Whiteley's I believe there is a man called a "Hustler." His

sole duty is to hustle the shopwalkers and get a little more out of them than they intend to do. The officer's role is that of a "hustler" to the N. C. O.

The Course of Training.—Appendix II. Infantry Training gives a syllabus of recruits training as a guide to officers charged with the training of recruits. It is not intended that this syllabus should be followed rigidly and it often requires considerable alteration and modification before it suits local conditions.

The course in infantry training is divided into fortnights and the fortnights vary from 82 hours work to 44. Oddly enough the fortnight with the 82 hours work is the first one. Now if this were carried out the effect on the recruit would be disastrous. He would be overworked, if he did not break down altogether he would certainly become so stale that he would learn nothing. It is better that the first fortnight should be the lightest. Not only is the work of a nature to which he has never been accustomed, and exercises muscles which he has probably hardly ever used in his life, but he has not sufficient stamina for a long day's work. The majority of recruits who join us are insufficiently nourished and before any hard work can be expected of them they must have their bodies built up by wholesome living.

In fact I do not think that until the 2nd months training a full days work with full results can be got out of the ordinary recruits. The working day is four hours, with a half holiday on Saturdays. This is generally divided into parades of $\frac{1}{2}$ hour each. The parades are again divided into $\frac{1}{4}$ hour practical work and $\frac{1}{4}$ hour lectures. A quarter of an hour is ample for the lecture of the average instructor and it must be remembered the recruit cannot fix his attention on a subject for any length of time. Of course when the more advanced squads are taken out into the country for judging distance, recognition of targets, etc, these hours are not necessarily adhered to. I said that a full days work cannot be got out of a recruit at first, by this I mean a hard day's work. There are many items such as putting on marching order, laying down kit, cleaning his rifle, etc, which cause no physical strain. Therefore the first months programme should contain as much as possible of these necessary items so that later on, time need not be wasted on such subjects,

***System of Recruit Training & Man-Mastership.* 271**

You will perhaps say that 4 hours work a day is hardly a hard day's work; to this you must add one hour and a half in school attendance. This makes $5\frac{1}{2}$ hours and I think it is sufficient for a youth who has never been accustomed to continuous instruction of any sort.

I now propose to touch on some of the methods of instruction employed at the depot.

Musketry receives the largest amount of attention. This subject is so fully dealt with in the *Musketry Regulations* that there is little further to be said on the subject.

Great value was set on the inspection and standard tests para: 297 M. R. and these were systematically carried out monthly.

The sub-target was found most useful, the drawback to it was that it was a very expensive apparatus to invest in. Now, however a cheap variety has been produced which only costs about six guineas and answers all purposes. In the sub-target triangle of error and miniature range practices, care was taken to preserve the record of each recruit's practice for purposes of comparison, thus his prevailing error could be detected.

Military Vocabulary.—It was found that words in common use in the army were quite unintelligible to many recruits, simple words like "company," "battery," "squadron," conveyed no meaning to him. These words are in such constant use that one does not realise that they are, strictly speaking, technical terms. It was therefore decided to systematically teach military terms and a list was made out, a few of which had to be learnt daily and the recruit was examined in them by an officer when the squad was being tested.

General Knowledge Questions.—The instructors were further made to teach recruits items of general knowledge of military value. The names of officers of the regiment, where the different battalions were quartered, the ordinary different kinds of trees and crops, the tracks of horses trotting, galloping, etc., in fact anything a boy scout should know. For this purpose Baden Powells book on scouting is useful. A permanent record of horses hoof marks at the walk, trot, canter etc., can be made by preparing a small square of concrete and making a horse walk,

trot, and canter across it in parallel tracks. The concrete is then allowed to set and a permanent record is made for the instruction of recruits. I should imagine well puddled mud would serve the purpose of concrete out in this country.

Digging and Entrenchments.—Near the barracks a model earth-work was constructed showing as many varieties of revetments, loop holes, etc., as possible.

The instructor could then lecture his squad on the spot. Each recruit was also taught to dig himself in. To make it more instructive one half of the squad may be told off to watch the other half digging, and when a certain amount of cover has been constructed, the half on the watch may throw clods of earth at any head that appears above the cover.

The Landscape Targets were extensively used, but our methods were only the ordinary ones and so require no comment.

Defence Practice.—The men were placed in a defensive position and asked how they would improve the existing cover with any materials available.

The enemy was represented by pole targets which I expect you all know, in case any of you do not, I may as well describe them. They consist of a pole about 20 feet long, along it are nailed card-board heads and shoulders, and below the head and shoulders are nailed sacking to hang down representing the body and legs. In the centre is left a space for a man to hold the pole, his own head and shoulders corresponding to the dummies.

He can now double backward's and forwards holding this pole breast high. At a distance the arrangement gives a very life-like idea of a squad of men moving. When at rest the pole is placed on the ground and the heads and shoulders look like men lying.

Night Work.—Practice in night work was given after dark about once a week. This included teaching the recruit to move noiselessly, to fix bayonets in the dark without noise and to be able to recognise the Great Bear and the Pole Star. Assistance in teaching the latter can be given by having a diagram of the Great Bear painted somewhere on the walls of the barracks for the squads to study.

System of Recruit Training & Man-Mastership, 273

Practice was also given in night outposts. The more advanced squads were sometimes divided into small patrols and told to concentrate as quickly as possible at some known spot. Each patrol was put in charge of some recruit who had shown an aptitude for finding his way about country.

Lectures.—As I said, every parade ended with a quarter of an hour's lecture and catechism. If the lecture lasts much longer both the instructor and the recruit get exhausted. The lecture need not be on the subject just completed, possibly all there is to say has been said on that subject, and a lecture, say on regimental history can be substituted. There is a list of subjects at the end of Appendix II, I. T., and these must be worked in somehow. These odd $\frac{1}{4}$ hours can be very usefully employed in such a way. On all parades every N. C. O. was required to carry a note book, amongst other things in this note book he was required to have the headings of any subject he might be called upon to lecture on. The preparation of this book entailed a good deal of work but it ensured the N. C. O. reading up his subject and when finished it lasted him all the time he was at the depot.

It was found a great help to them in the lecturing. In this note book also he was required to have a copy of the syllabus of work. The syllabus was made out in the orderly room for the whole three months course giving the subject for every parade. We insisted on it being strictly adhered to, for we found without it, the more tedious subjects were inclined to be neglected for the more interesting ones.

Extra time for lectures was often put in while the recruits waited their turn to fire on the range, also a good instructor often managed to get some of his squad together in the evening and give informal lectures.

Regimental History, is an important subject but is a somewhat difficult one to teach, the official account is dry reading. If possible a special account should be prepared for recruits. We found the N. C. O's. one idea was to teach dates, which taxed the recruits memory unnecessarily and were not of much value when learnt, Of course one of the chief ideas is to try and make

the recruit understand that his is the finest regiment in the service and that he is one of the finest men in it. We did our best to impress on the recruit that the regiment was his home for the future and that everything he did should be for the good of the regiment. N. C. O's. should be able to give a rough idea of the actions in which the regiment received its honours and in recent campaigns, accounts of how any celebrated individuals distinguished themselves, especially those who had any connection with the regiment. Recruits should also be taught to realise the size and power of the British Empire. Old soldiers who have seen something of the world should be encouraged to mix with the recruits and tell them their experiences; in fact every means should be taken to broaden the recruit's mind and make him think of things outside his own personal needs.

Tests.—I have frequently mentioned the "Tests." I will now explain how these were conducted. Every squad was tested by an officer in every subject that it had done during the past month. Thus each squad was tested three times. In collective subjects the squad was either marked "passed" or "not passed." If "not passed" it was again tested a week or so later and a record made in the "test book." In individual subjects each recruit was personally questioned or practiced. A standard was laid down such as standard Tests M. R. 297. "Four questions out of six" passed, or in shooting, a certain sized group had to be made, or two bulls out of five shots. The same officer was as far as possible told off to test in the same subject and the marking was standardised. Of course considerable allowance had to be made for recruits of weak intelligence and the officer exercised much discretion. No extra drills were given for indifferent squads, but the instructors knew that it reflected on them, if a squad was a bad one and generally put in extra time accordingly.

On the recruit joining his battalion about two months more are spent at recruit training, this time is usually taken up with drill and musketry courses. I should like to specially point out that, in arranging a system of training the interest of the recruit and the instructor must be maintained.

This can only be done by having short parades and a great variety of subjects. The instructor must also be made to feel that his ability is being tested and that his future promotion may depend on his success in training his squad.

The whole system of training depends on the N. C. O. realising his responsibility. He should be given a fairly free hand in his methods of instruction. If he himself has been properly instructed he is pretty sure to produce good results. It is most annoying for anyone giving instruction to be interfered with by a senior. It at once destroys his initiative. Officers are often in the habit of checking an individual man in a squad and occupying themselves with trifles. They thus get out of the habit of looking at the broader aspects and also lower the prestige of the N. C. O. in the eyes of the squad. They should remember that they are simply overseers and that they are not intended to do their juniors work. In civil life every party of labourers has a "ganger" in charge of them. Now the "ganger" is absolutely forbidden to do any work himself. The reason for this is, if he starts working everyone else stops work to watch him. I think the position of the officer is very much that of the "ganger."

As far as the recruit is concerned the system is intended to develop his intellect and his individuality. It is not expected that he will remember all that he has been taught at the depot, but the idea is rather to open up his mind so that he will be able to regard things from the right point of view. He must be made to understand that everything he is being taught and everything he is expected to do has but one aim and object in view, that is to defeat the enemy. With this object instructors must be careful to explain the reason for everything they teach, otherwise the recruit is liable to imagine that some tasks are set him simply with the object of passing the time and making him feel uncomfortable. Unless it is explained to him, he cannot see the use of "squad drill," of muscle exercise, or of even cleaning his teeth. I have not touched on the feeding of the recruit which is of course an important consideration but does not concern us here.

276 *System of Recruit Training & Man-Mastership.*

Recruits training is an interesting subject and well repays any trouble spent on it. You get your new material and the results produced are entirely due to your own exertions and are very apparent. You also have the satisfaction of feeling that by giving the recruit the best possible training you are doing much towards maintaining the efficiency of your regiment, for on the thoroughness of his training, depends the efficiency of the soldier throughout his service.

Some Notes on the Service Rifle.

BY MAJOR C. J. D. FREETH, R. A.

Inspector of Guns and Rifles in India.

It has become evident to the writer that there are still some things in connection with the service rifle which are not thoroughly appreciated. Many of the complaints which are made from time to time about the accuracy and rapidity of this weapon, can be traced to the neglect of small details, which, taken together, exercise a considerable effect on the serviceability of the arm.

The aim of the present article is to explain these points. Much that is here written may be found in the Musketry Regulations and other official publications; but a special effort will be made to give clear reasons for everything that is recommended, in order that the wisdom of the directions may be more intelligently understood and more readily retained in the memory.

Accuracy and rapidity are the chief desiderata in the rifle, and when once these have been obtained, the aim of the possessor should be to keep his rifle efficient as long as possible.

The barrel—Undoubtedly the most important part of the rifle is the barrel. The bore must be straight and cylindrical, and the chamber must be true to gauge and free from bulges or corrosion.

The cleaning of the bore is fully dealt with in the latest edition of Musketry Regulations, and any misconception with regard to the use of the gauze has been cleared up. It is not therefore proposed to discuss this most important subject in the present article.

Fore end.—With regard to the accuracy of the rifle, there are one or two things which should be carefully watched, especially in India where the climatic conditions have so great an effect on the wood work. The fit of the fore-end and nose cap are most important points. The accuracy of a perfect barrel may be completely destroyed by a warped or badly fitted fore-end or nose cap. Before, therefore, any barrel is condemned for inaccuracy, the fit of the fore-end and nose cap should be carefully examined.

Nose cap.—A tight nose cap may, perhaps, have little effect when the firing is very slow, and the rifle is kept comparatively cool; but in rapid fire, when the barrel gets hot, the shot gradually strike lower and lower on the target. This is caused by the longitudinal expansion of the barrel. The nose cap is made a loose fit on the barrel in order that the latter, when it expands, may pass freely through the nose cap and thus maintain its straightness. If, however, the nose cap is so tight that this action cannot take place, the barrel assumes the form of a bow, and dropping shots naturally result.

Butt.—Another point in connection with the woodwork is the tightness of the butt. In dry climates in India, it is quite a common occurrence for the butt of a rifle to become quite loose, even when the stock bolt is fitted with a keeper plate. A loose butt should therefore be carefully watched for.

Sights.—As regards the sights, beyond the points mentioned in Musketry Regulations, para 118, there is not much to be said. One of the chief things to be remembered is that the height of the ramp governs the elevation. It is, therefore, of the greatest importance that the surface of the ramp should be treated with the utmost care, and that it should never be cleaned with anything harder than an oily rag. Burnishing the ramps in any way should always be avoided.

Again, the sight bed may become loose. The natural remedy for this would seem to lie in tightening up the screws. But an examination of Plate IV Musketry Regulations will show that, with the Mark III short rifle, this is, at the best, only a temporary expedient. If the sight is loose, it follows that the axis pin is also loose. This pin can only be tightened by the armourer sergeant or other qualified person.

Owing to the absence of a fixed sight protector, the foresights of Indian pattern charger-loading long rifles are liable to become loose. This, of course, only applies to those rifles which have removeable barley corns. Any movement of the foresight should, therefore, be at once detected and rectified. Sight protectors are now being fitted to all Indian pattern charger loading rifles and this defect will probably be much less in evidence in future.

Before leaving the subject of sights, it would be well to say a word about the aperture sight. This is a portion of the rifle which is unfortunately sometimes overlooked, with the result that rifles can be found in which the bead of the dial sight cannot be seen properly, when firing at about 1,700 yards or about 2,500 yards. This defect is owing, at the shorter range, to the woodwork of the fore-end fouling the line of sight, and, at the longer range, to the wing of the backsight protector covering the bead. It is hardly within the province of this article to dwell on the importance of long range firing. Suffice it to say that long range firing is considered necessary by military experts and the sight has been provided. It should, therefore, be kept efficient.

At the present moment, the question of rapidity of fire is receiving considerable attention. Ever since the rapid series was introduced into the classification practices, complaints have been made that rifles exhibit faults at rapid fire. These faults will each be dealt with in their turn, and the remedy, where one exists, will be pointed out.

The Magazine.—The first consideration is naturally the feed up of the cartridge from the magazine. The cartridge may either fail to feed up at all or it may jam. The reason for both these faults is, in many cases, that the magazine stop clip is not in the right position.

Musketry Regulations (para. 48) lay down very explicitly how to assemble the magazine platform, and Plate V shows clearly the position for the magazine stop clip. Unfortunately, however, the importance of these instructions is frequently overlooked. There appears to be an inclination to regard the stop clip merely as a means for keeping the platform in the magazine whereas, in reality, the efficiency of the magazine itself depends largely on the correct position of the clip, combined with that of the lip on the left front of the magazine. Great care should, therefore, be taken to ensure that neither the clip nor the lip become damaged in any way. Any distortion or movement in respect to either of them will be very liable to cause a failure in feed. If the stop clip has been left so that it is not close up against the stop on the magazine, not only will it get bent when the magazine is inserted in the rifle, but also the top cartridge

will not be properly held down in the magazine. The result will be that the nose of the bullet may rise too soon and jam against the face of the chamber. If, on the other hand, the stop clip has been forced too far back, it will interfere with the movement of the cut off, by which it will get damaged. It will also hold down the top cartridge too firmly, and may possibly cause a failure of the cartridge to feed up altogether. These little points are therefore of vital importance to the proper functioning of the rifle.

It is hardly necessary to mention that failure of the cartridge to feed up may be caused by not withdrawing the bolt to the full extent. Nevertheless failures, owing to this cause undoubtedly do sometimes occur.

There are two other possible causes of failures in feed, namely the set of the magazine platform spring being incorrect, and the magazine being loose. The former may result in either a jam or a failure to feed, and the latter is evidenced by the nose of the bullet being jammed between the top of auxiliary spring and the bullet lead. There should be no space between the bullet lead and the magazine.

Missfires.—Missfires are, fortunately, rare occurrences with 303 inch ammunition. Nevertheless, when they occur in rapid practice, they are a source of delay and are particularly annoying. The fault may, of course, lie with the ammunition, or some other well known cause for missfires may exist.* These points call for no special remarks.

There are, however, two other possible causes for missfires which should be specially noted, namely the cap being struck eccentrically, and the locking bolt not being pushed right forward. Eccentricity of the striker is usually due to lateral play of bolt head in the body in the closed position. This allows the extractor spring to pull the the bolt head to the right, and, in cases of excessive looseness, missfires, occur. It is therefore always advisable to examine missfired cartridges to see if they have been struck centrally. The only remedy for this eccentricity is to fit a new body to the rifle. Again, missfires may occur owing to

M. R. opposite page 15.

**Vide* "Maxim Gun and small Arms," compiled by the Ordnance College 1911; p. 28.

faulty manipulation of the locking bolt. If the locking bolt is not pushed right over, it exercises a dragging action on the forward movement of the cocking piece. Not only does this lessen the force of the blow on the cartridge, but it also causes damage to the locking bolt, which rapidly becomes unserviceable.

Extraction.—The next difficulty experienced in rapid firing is that connected with extraction. The causes for this may be enumerated as follows:—

- (1) Soft cartridge cases.
- (2) Unsuitable butt.
- (3) Too great force required to raise the bolt lever.
- (4) Too great force required to withdraw the bolt.

Ammunition.—If the metal of the cartridge case is soft, the pressure caused by the explosion of the charge causes the cartridge to expand and grip the side of the chamber. The result is that the initial extraction is very difficult. When, therefore, it is difficult to raise the bolt lever, the ammunition should first be examined. If the fired cartridges show a distinct swell about $\frac{2}{10}$ of an inch from the rim,—that is, where the thin part of the wall of the cartridge case commences, this is an indication of soft metal. But it is always better to further test the ammunition by firing it in another rifle, which is known to give no trouble with other lots of ammunition, before finally deciding that the cartridge metal is alone the cause of the trouble.

There is no satisfactory remedy for this defect. Oiling the cartridge case has been advocated by some, but it is forbidden by Musketry Regulations § 116 and before resorting to this doubtful remedy, it would be well to consider the following points.

Oiling the cartridge increases both the velocity of the bullet and the strain on the action. The result is that the shooting of the rifle is altered, and the body of the rifle is unduly strained. Even an oily charger or an oily magazine will have the effect of making the shots strike high on the target. See also Musketry Regulations para 163. How much more certainly will this occur if the whole cartridge is oiled! It may, however, be urged that, if all the cartridge are similarly oiled, they will all strike equally high, but this is hardly likely to happen. The magazine gradually becomes more and more oily and, as the firing continues,

the cartridges pick up more of this oil, and the point of impact becomes higher. Some time ago at home some difficulty was experienced in getting rifles to pass the accuracy test owing to the last round from each magazine striking high. This was eventually traced to some chargers which had been oiled to prevent them rusting. The magazine became oily and the bottom cartridge from each magazine picked up more oil than the others.

As already mentioned, the strain on the action is increased by oiling the cartridge. With an unoiled cartridge, the cartridge case, at the moment of firing, grips the side of the chamber and the backward blow on the bolt head is reduced. When, however the cartridge is oiled, it is forced back in the chamber by the explosion of the charge, and the bolt head receives a severe blow. This blow is half as much again as that given by an unoiled cartridge. It is obvious that this is subjecting the rifle to an unfair strain, and that the life of the action will be considerably curtailed.

Unsuitable Butt.—Musketry Regulations * contain instructions as to the fitting of men with the correct sized butt; and it is distinctly laid down that the shortest butt, which can be used comfortably, should be selected. From a rapidity point of view this is most essential. In the prone position, it is very difficult to manipulate the bolt from the shoulder, if the butt of the rifle is too long; for, when the bolt is at the full length of the arm very little power can be applied in turning the bolt lever. This point appears to be frequently overlooked in fitting men with rifles.

Initial Extraction.—When the bolt lever is raised to open the breech, the first thing that takes place is a partial withdrawal of the striker combined with the initial extraction of the cartridge. The raising of the lever may be difficult. This, as already stated, may be due to the metal of the cartridge case, but it may also be due to some inherent stiffness in the action itself. The best way to test this point is to ascertain the force required to raise the lever when there is no cartridge in the bore. This is done by tying a spring balance on to the knob of the bolt lever

* Para 119.

and then, by means of the balance, raising the lever. The reading of the balance should not be more than 9 lbs. If it is more than this, the action is at fault, and must be further examined.

The bolt should receive the first attention. The stiffness may be due to burrs or roughness in the groove for the stud on the cocking piece. If these exist, they should be carefully removed with a smooth file. Or, again, the extracting or front surface of the bolt lug may not be quite smooth. It is very important that this should be rectified, as it is by means of this surface that initial extraction is effected, and any roughness here will inevitably increase the force required to raise the bolt lever. For the same reason, the front of the recess in the body for the bolt lug should be quite smooth.

There is one other possible cause for difficulty in initial extraction, namely, a bulged or corroded chamber. This might cause the cartridge to stick in the chamber. It can be detected by the armourer sergeant, and the only remedy is to obtain a new barrel.

Withdrawal of the bolt.—As regards the withdrawal of the bolt, it is somewhat unusual to find much difficulty in this operation, if the bolt is withdrawn by a straight pull to the rear. If the strain on the bolt is applied in a diagonal direction, a jam may be caused, especially if the bolt rib is a loose fit in the body. Should, however, the fault be clearly traceable to the rifle, the rib way in the hood at the rear of the body should be examined. Roughness or tool marks cause friction and stiffness, and a sharp corner at the left rear of the bolt rib will accentuate this stiffness. These defects can generally be rectified by a judicious use of a smooth file.

The extractor spring has a certain influence on the withdrawal of the bolt. This spring presses the cartridge to the left; and at the same time, it pushes the bolt head to the right, thus placing the bolt in a slanting position in the body. Then when the bolt is withdrawn, not only does the cartridge press against the left side of the body, but also the slanting position of the bolt, as already mentioned, causes difficulty. The left inside of the body should, therefore, be freed from all roughness

Some Notes on the Service Rifle.

and the strength of the extractor spring should be tested. The spring should just move with a strain of from 7 to 9 lbs. If more than 9 lbs. is required to move it, a correct spring should be fitted.

Another cause of unnecessary friction is an eccentric bolt head. Any sharp ridge at the junction of the bolt and the bolt head should be blended off.

Difficulty in initial extraction and withdrawal of the bolt can frequently be appreciably lessened by a frequent and systematic manipulation of the bolt with dummy cartridges, the bearing surfaces being well oiled.

Within the experience of the writer, rifles which have exhibited marked difficulty in rapid fire, have been completely rectified by an intelligent attention to the small details which have been mentioned. "It lies within the power of every soldier to become a good shot," and it is only by the most careful attention to details that success can be achieved.

On the Position of Headquarters.

BY ISHMAEL:

It will, I think, be generally agreed that the choice of a position for the headquarters of a force in the field is a matter of considerable importance and as such deserving of consideration. The subject is touched on in several places in the Field Service Regulations, but there appears to be room for a connected discussion of the question. The following paragraphs bear on the point :—

F. S. Regs. Pt. I. Sec. 8 (3)

“ Commanders of brigades and larger formations, of detachments, and of any other body of troops when advisable, will establish a headquarters where messages can be received and acted on even during their temporary absence; and will notify its position to all concerned: If a commander intends to leave the main body of his command for any length of time he should detail an officer who should be provided with the necessary staff to act for him in his absence.

Sec. 104 (5)

“ During an engagement the position of the commander will depend on the size of the force he commands. With a small force it may be possible to exercise personal supervision but with very large forces the Commander-in-Chief should usually be well in rear, beyond the reach of distraction by local events and in signal communication with his chief subordinate commanders. Subordinate commanders should take up positions where they can obtain a good view of the area in which their commands are operating and which admit of easy communication with their immediate superior and the units under their command. Should a commander leave the position to which he has directed that reports are to be sent, a staff officer must be detailed to receive and forward all reports and orders that may come in.”

Sec. 101 (3)

"When contact with the enemy is anticipated, it is advisable that commanders of columns should be well forward, usually with their advanced guards."

The paragraphs will be found to contain most, if not all of the considerations which govern the choice and movement of headquarters, and it will be seen that speaking generally, the guiding factor is the provision of facilities for the issue and receipt of orders and reports.

The position then will depend largely on the modes by which orders are issued and information received. Now these services of communication have recently been placed under a single and permanent organization, namely the signal service, and it follows that the location of headquarters will be dictated to a great extent by the requirements of that service. This does not of course mean that the position should be selected by the signal officer. On the contrary, this is a question which must be settled by the commander and his General Staff officers. But since the wants of the General Staff and of the signal service are identical and since the signal officer concerns himself entirely with this matter of communication and is presumably an expert in this department of knowledge, we shall expect to find matters working most smoothly where the General Staff and the signal officer work in harmonious collaboration. Experience confirms this.

What then are the requirements of good communication? The ideal is to have separate lines of communication between headquarters and each of the bodies with which it is desired to communicate, since it is obvious that if more than one such body has to utilize a single line of visual or cable communication, delay must necessarily occur. This difficulty can no doubt be got over to some extent by electrical or other devices; but, in general, it is certainly the case that a system of separate lines radiating from a common centre, situated within a convenient distance of the force headquarters, will give the best results.

The system reaches its highest development in the case of the stationary headquarters of a force deployed; and since the requirements of this case can affect, as we shall see later, the

position of the headquarters of a force in movement, it will be discussed first. What considerations govern the position of the central signal station in such a case? Visual signalling demands a position from which a wide view can be obtained and whence communication can be maintained with subordinate or superior units, whether stationary or on the move, without the interpolation of transmitting stations, each one of which introduces an element of delay and inaccuracy. Communication by orderly requires a central position from which good roads radiate towards communicating units: no unit is then at an excessive distance from headquarters, the pace of messengers is rapid, and the headquarters are easily found. The location of the headquarters signal station close to a conspicuous landmark will greatly assist the orderly service. Finally the cable system also requires a central position which should not be too far forward, or a retrograde movement may necessitate the abandonment of the cables whose weakest characteristic* is the inordinately slow pace at which they can be reeled up. A good network of roads, along which the cable can be laid, will result in a quicker pace of reeling up and will facilitate inspection and repair.

Such are the requirements of the signal service pure and simple. What are those of the command headquarters? These too will desire a position from which a wide view is obtainable as this will facilitate control and this position should not be too far forward.† It should be central yet with a bias towards the centre of gravity of the field of operations, that is to say towards the decisive point. In the latter respect only will the requirements of the command and of the communication service come into conflict, and it will rest with the General Staff, after consultation with the signal officer, to decide on the most suitable compromise,

* Both here and throughout this article the question of the location of divisional and brigade (and perhaps regimental) headquarters has above been considered. The conditions under which the command of an army is exercised as well as the different systems of signal communication will largely affect the problem where Army Headquarters are concerned.

† F. S. Regulations, Part I, Sec. 104 (5).

On the Position of Headquarters.

It is not of course necessary that the command headquarters and the central signal station, should be located in one and the same spot, though this would be the most convenient and economical arrangement. The majority of incoming messages will be received first in the central signal station and these will be sent on to the Staff by messengers; but so long as they have not far to go, no great delay will result. Moreover cable terminals can be brought up to command headquarters and arrangements made to direct orderlies thither without causing any serious technical difficulties.

It is when command headquarters (that is to say, the commander and his staff) after once being established, shift their position to a distance, that confusion arises. The messengers in progress must be despatched before the signal and cable terminal can be closed down, and if an important message be offered from the distant terminal the signaller may find it difficult to decide whether it should be accepted or not before morning. This alone involves considerable delay. Messages must now be sent to all terminals informing them of the intended move of the central station, its direction, the position of the new headquarters, and of the probable time of reopening communication*. The station is then closed down and the signallers move off to their new position. Here again, unless spare signallers have been available to send on ahead, there will probably be considerable delay before communication can be reopened. As regards the cables, it will seldom be possible to extend all the lines to the new headquarters and either they must be joined together and a single cable run out from the joint, which will immediately reduce the efficiency of the system by 65 to 75 per cent, or cable communication must be broken off until the lines have been reeled up for a certain distance and relaid. To direct the incoming orderlies to the new headquarters, someone must be left at the old position and this again leads to waste of time and men.

I think it will be agreed then that a considerable move of headquarters must result in a great deal of inconvenience and inefficiency which can only partially be remedied by giving the

* Training Manual Signalling, 1911, para. 206 (9).

signal officer ample warning of the intended move and definite information as regards the direction of movement and the new position. When, as sometimes happens, the command headquarters move suddenly and without warning or without any definite idea as to the next position to be taken up, the confusion must be twenty times worse confounded; while a constant shifting of headquarters can only result in a paralysis of the communication service and a loss of control, with which the use of orderly officers can only partially cope.

I have ventured rather to labour this point as the difficulties under which the signal officer works in this respect are not, I think, always sufficiently realized. Nor is it perhaps universally recognized that the interests of the communication service are in almost every case identical.

We come now to the location of headquarters in a force on the move. The considerations governing this seem to be as follows. That when contact with the enemy has been obtained, or is expected, it will be desirable to reduce the length of the communications with the contact troops, and the headquarters should therefore be well to the front.* The selection of a position for headquarters when a force deploys will call for some thought and involve some reconnaissance, for, as has already been shewn, a position once selected cannot will be changed without confusion. The fact also requires that headquarters should be well forward in the direction of march, though it conflicts with our first consideration in the case of a force retiring. In this case, however, the reports received from the covering troops will affect the movements of the main body less than in the case of an advance and there is therefore less objection to the headquarters being far from the front in a retreating force.

A third consideration is that when the force deploys the headquarters should at once find themselves not far from their final and central position. In the case of an advancing force the general tendency will be to move well forward into action, and the headquarters should therefore be well forward to start

* F. S. Regns. Pt. 1, Sec. 101 (3).

with ; a retreating force will have an opposite tendency in deployment and this again will require the headquarters to be placed further from the front in the latter case.

The technical requirements of the signal service will not affect to any extent the position of headquarters when the force moves in one column. Orderlies will generally be used for communicating with the most advanced troops ; while fairly efficient cable communications can be maintained with the various units of the column, no matter what the position of the headquarters in the column of route. It must be remembered, however, that the signal sections with brigades and divisions are slow-moving and that they cannot keep up when headquarters change their position at the trot.

In the regulations no definite rule is laid down as regards the position of headquarters on the line of march ; but the general custom, which is in conformity with the above considerations, appears to be for headquarters to be at the head of the main-guard of the advance-guard in an advance ; at the rear of the mainbody in a retirement ; at the head of the mainbody during a flank movement ; while in mountain warfare the position would either be at the head or tail of the mainbody as circumstances might require.

When, instead of marching in a single column, the force moves on parallel roads, the difficulty of intercommunication will be largely increased and this may affect the action of headquarters. For, except where the march is short, as might be the case in a night march or night advance, the equipment and establishments available will impose a limitation on the use of cables and in the case of a march of ordinary length we must look for no assistance from this source. Under favourable circumstances, communication by visual can be maintained between bodies of troops on the move ; but in close or flat country visual communication also will generally be found impossible and reliance must then be placed on a system of orderlies. Yet the average orderly will find considerable difficulty in finding a moving objective and where close touch with flanking columns is considered necessary, it may be better to move the force headquarters by " bonds progressifs ;" a method which for technical

reasons is almost unavoidable where wireless communication has to be maintained. When this system is adopted, the hours of arrival at and departure from halting places must be clearly laid down and must be adhered to as strictly as circumstances will permit ; and it may even be desirable to lay down a somewhat similar itinerary for subordinate headquarters.

But wherever headquarters may be located their position should be known to all concerned and should be easy to find ; and when communication by orderly is the order of the day, a distinguishing mark for headquarters is most necessary. As a Brigade signalling officer, I have arranged with regimental signalling officers for a " large signalling flag to be carried unfurled with the regimental headquarters signallers and this has proved successful as a guide to orderlies and cable parties. Brigade and divisional headquarters have their own distinguishing flags ; but these are apt to be taken away when the commanders of these units for any reason leave their fixed position ; an inconvenient practice as far as the communication service is concerned as there is then no mark to guide incoming orderlies. Yet brigade and divisional commanders undoubtedly require some such distinguishing flag for their personal use, and it would therefore seem desirable for the signal units to provide and fix special distinguishing flags at the place to which reports are to be received.

It may appear unnecessary to repeat that the position of headquarters should invariably be mentioned in orders and that all changes of position should be at once notified to the superior or subordinate headquarters concerned ; Field Service Regulations, Pt. I, Section 8 (3) provides for this, and a mistake in this respect will easily be found where combined orders are got out. But experience shows that it is by no means unusual for the point to be overlooked when, for instance, a column deploys for action. In such a case the advance guard not only abandons its original formation but it soon ceases altogether to exist as a separate body. The " march orders " cease to apply and units should be informed of the position of headquarters. Under the circumstances orders are issued either verbally or by separate chits to the various units and my impression is that the point is then very frequently forgotten. The same thing occurs when a force adopts a prepar-

On the Position of Headquarters.

atory formation or moves across country deployed. Yet it is of the utmost importance that all units should be kept continually informed of the place to which reports are to be sent, and this applies to sections and companies in a regiment quite as much as to larger bodies.

In saying that headquarters should not, as far as possible, change their position, it is not, of course, meant that the commander should never leave that position. The necessity of personal reconnaissance is very clearly laid down in the Regulations* but it should be remembered that so long as the commander is absent from headquarters, so long he has "no fixed address," the delivery of reports and the issue of orders must be, at best, attended with great delay and uncertainty. Yet, in war, time is counted by minutes and at any moment a report may reach headquarters requiring instant action.

The officer left at headquarters to receive reports should be in a position to take such action, if necessary, and we may conclude, therefore, that when a temporary commander has not been detailed† he should be a comparatively senior officer of the General Staff, the most senior available. Yet it is by no means rare to find the orderly officer, whose mind is presumably occupied with the whereabouts of the tiffin-mule, told off for this important service: even the signal officer has at times been called on to perform the duty. I think it will be agreed that this is absolutely wrong.

Once the orders based on the personal reconnaissance have been issued, the absence of the commander from headquarters should be avoided, as far as possible; and this apart from the danger that a too near approach to the front line may cause him to lose his sense of proportion and become obsessed by minor and local events.‡

For it is hardly an exaggeration to say that during his absence from headquarters he ceases to exercise his command, and, as the crisis draws near, nothing short of disaster should draw him away from his fixed position. To conform to this

* F. S. Regns. Pt. I. Sec. 93.

† F. S. Regns. Pt. I, Sec. 8 (3).

‡ F. S. Regns. Pt. I, Sec. 104 (5).

rule will no doubt be difficult, the desire to see with one's own eyes will be intensely strong, and to resist it will require in the commander great strength of will combined with that *sangfroid*, that "*mens aqua in arduis*," which Sir Ian Hamilton tells us is considered by the Japanese to be the most essential characteristic of a successful commander. Yet the temptation must be resisted if chaos is not to take the place of order.

To sum up the argument. In every unit engaged in no matter what operation of war, a headquarters must be established to which reports are to be sent, and the position of this headquarters must be known at all times to all subordinate units, to which every change of position must be immediately notified. The position should be selected with the utmost care, due regard being had to the requirements of the communication service; and once selected it should not be changed except under the greatest necessity. In nothing is the saying "the best is the enemy of the good" more true than in this matter of the location of headquarters; and it is perhaps not too much to say that it is infinitely better to select an inferior position and to cling to it, than to be continually shifting about looking for a better. Alterations may at times be unavoidable but when they occur, deliberation and foresight can alone prevent chaos and loss of control. Prince Kraft in his "Letters on Infantry," speaking of the tactical handling of the infantry brigade, deals with the subject fully and with the greatest authority, and I do not think I can close this essay better than by quoting him in extenso. He writes as follows.*

"When a large mass of troops has been called into action in war or at manœuvres, the local position of its commanding officer is of the greatest importance to it. You know already that the form of orders for the day and for the marching and fighting dispositions of each army corps, as issued by the General Staff, always contains information as to where the officer commanding is to be found. The officer commanding a brigade must, equally with the corps and divisional commander, let the troops know the position in which he will ride or stand. But

* "Letter on Infantry" by Prince Kraft zu Hohenlohe Ingelfingen (trans. "Walford"). Edward Stanford, 1889.—Letter XVI. page 237.

“this is not sufficient; he must in addition remain in this position
“and must on no account leave it without at least placing some
“officer there who may give information as to where he has gone.
“It may very well happen, it must indeed happen every day,
“that the officer commanding finds it suddenly necessary
“to ride here or there. He hears fighting going on on
“his right or on his left and wishes to get to some hill
“which offers a good view and lies away from the road,
“in order to see what is taking place. Or there is perhaps a
“hill from which he wishes to choose his ground, or he may desire
“to go to it in person in order to see if it offers a good position
“for his troops; or among the troops in front or in rear of him
“he may notice some irregularity, which he wishes to check: in
“short, for some reason or other, he spurs his horse and rides,
“off, his staff following him without knowing where he is going.
“He perhaps at first wishes merely to ride a few hundred paces
“off the road to some height from which he can get a good view
“but when there he finds his attention attracted to another point,
“and he rides on further without any one thinking of sending
“information as to his movements to the spot which has been
“before named as his position.

“Something of this sort so often happens that it is well worth
“while to draw attention to the fact. Since, when it does happen
“the officer in question breaks off, as it were, one of the most
“important teeth of the train of wheels which makes up the
“mechanism of command, and may think himself lucky if the
“machine does not stop altogether. I spoke to you in my Letters
“on Cavalry of a case when the officer commanding a division
“rode forward to reconnoitre, and was unable to find his division,
“nor it him, during the whole of a day of battle.....It happened
“at some manoeuvres that the general commanding a com-
“lined infantry brigade left his place in the column of march in
“order to see whether a position which lay on his right was
“defensible. In the meantime a report came in from his cavalry
“about the enemy. He could not be found: the officer who
“brought the report hunted about in the direction in which the
“general had ridden. By bad luck, the latter was an exceedingly
“good rider and had a most excellent English half bred horse, so

“that it was impossible to catch him up. The brigade kept on
“marching to the front, though the report, if he had received it,
“would have compelled the general to take up the position in
“question. The brigade in column of route then came directly
“upon the enemy who surrounded it, and the general hurried
“up only in time to take charge of a fight which was going very
“much against him. After the fight he received the report.

“We often read in military history how some order or some
“report failed to reach the spot to which it was sent. This hap-
“pens even more frequently than we know, since the fact is men-
“tioned only when it has had serious consequences. Seldom I may
“almost say never, are we told that the fault lay with the person
“to whom the report was addressed, and yet it is quite as often
“his fault as that of the bearer of the message. The higher the
“rank of the leader the more slow and deliberate should he be in
“abandoning that position where both his superiors and his in-
“feriors expect to find him, however good a horseman he may
“know himself to be. The officer commanding our corps in the
“war of 1870-71 remained always with the greatest steadfastness
“at that point, or at that place in the column, which had been
“given out to the troops as his position. If he left it in order to
“reconnoitre, the Chief of the Staff remained in his place with
“full power to issue orders in his name if necessary, but as a rule
“it was the latter who was sent forward to reconnoitre.....It
“thus came about that no officer carrying a report had ever to
“seek long for him in any battle or combat: no misunderstand-
“ing ever happened, while during the whole war the mechanism
“of command of the Guard Corps moved like clock work and
“left nothing to be desired. Of course, what I have said does not
“apply to movements when there is danger in delay: for exam-
“ple, when the attack on St. Privat threatened to make no further
“advance, while the losses were becoming terribly heavy, the
“general in command of the corps pushed forward into the fore-
“most fighting line and gave his orders from thence. Such
“exceptions do not invalidate the rule!

“The leader of a small body of troops can perfectly well
“ride about within the limits of his command since the latter is
“not so extensive but that he may be easily found from any point

“in his part of the action. This is the case with respect to the
“officer commanding a company.....The officer command-
“ing a regiment should be obviously a little slower to move.
“But the officer commanding a brigade should, as a rule, leave
“his chosen point, or his place in the column of march, only
“under the following conditions:—That he either leaves some
“one posted or riding in his place who may give information
“concerning his movements, or that he gives over the command
“during his absence to the senior regimental commander who is
“present with the column. He must also remain in one position
“when the brigade goes into action, and has no right whatever to
“expose himself prematurely with the leading company, since he
“thus unnecessarily endangers the unity of direction of the
“brigade. He may certainly be sometimes compelled to expose
“himself at first in order to rightly estimate his position, to
“reconnoitre, and to make his dispositions. When the last
“reserves of his brigade, go forward into the struggle then, but
“not till then, his proper place is generally in the foremost line.

“It might appear as if a rule of this kind tied down too much
“the personal movements of the leaders. But this will always
“be the case in war: even the officers in supreme command have
“no personal liberty. During one of our campaigns I reported
“my arrival at my appointed position to the officer who was in
“supreme command over me; he was standing on a hill. We
“could see and hear a hot fight going on to the right and left of
“us at a distance of more than 4 miles. ‘I am in a very uncom-
“fortable position,’ said the General, ‘one of my army corps is
“engaged on my right, and another on my left. To-day’s battle
“is a decisive one for the army, and I am compelled to stay here,
“doing nothing except smoke one pipe after another, since I
“have ordered all reports to be brought to this hill, and, if I
“leave it, I shall bring confusion into the entire direction of the
“army.’

Correspondence.

*To the Editor of the Journal of the United Service Institution,
of India, Simla.*

SIR,

Attracted by the title : "Java, the Garden of the East." in your periodical for July 1913, which is well known in our colonies I read with much pleasure the interesting article by Lieutenant F. G. C. Campbell, 40th Pathans.

Since the author approves the kind reception by the military officers and civil officials he met with during his "fleeting visit" in the Dutch East Indies, I venture to draw his attention to a few facts, which have been wrongly stated, no doubt owing to inaccurate information acquired,

Before I proceed, I compliment Lieutenant Campbell on the clearness of his notes, which shows a quick eye and keen observation.

I readily admit, that we "Hollanders" have a great opinion of our method of government, which opinion we share with some foreign authors, as may be found in the works written by your countrymen I am referring to : (1) Tropical Colonization. (2) The far Eastern tropics, by Alleyne Ireland ; and The Policy and Administration of the Dutch in Java, by Clive Day, Ph. D.

A legal marriage between a European man and female native seldom takes place ; hardly ever the contrary, and then only in the case, that the native has had his education in Europe and has studied at one of the universities. In my opinion the good understanding between Dutchman and native is due to the generally high standpoint of the former and the knowledge of the latter, that he owes his welfare to the present rulers and the firm conviction that he cannot improve more under any other government.

Indeed, the loyalty of the native civil service officers to the Dutch Government is well known and an undeniable fact !

Although greatly flattered by the epithet bestowed upon the Dutch military officers as being intelligent, well-educated gentlemen, I cannot help observing, that my colleagues, besides "paying attention to studying etiquette and the likes and dislikes of their seniors," apply themselves earnestly to the study of military sciences. In our army too the memorable words of your eminent General Viscount Wolseley in his *Soldiers' Pocket-Book*, chapter: "Advice to Officers on Service as regards their bearing towards their men," are well known and duly practised.

As it would likely exact too much of your attention to linger on further errors, allow me to explain, that the reason why the bayonets are always carried fixed is, that our troops, during their expeditions in North Sumatra, Djambi, Bali, Borneo, Timor and Boni have experienced the necessity of being always on the *qui-vive* for possible sudden attacks with blank weapons. On that account our rifles are tested with the bayonets fixed.

It is true, that in former years the Dutch East Indian soldier was the wastrel, not only of Holland, but also of foreign countries; nevertheless there were among them many intelligent men, who thus found a new country, where they had the chance of turning a new leaf in their book of life. The present enlistment is excluded to foreigners and fortunately the quality of men we get from Holland is improving yearly.

Certainly the best native troops come from the islands of Ceram and Amboina and from Menado; I know however by an experience of 20 years' service as a military officer, that of the many gallant soldiers I have met with and personally known, the natives of Java were not the least courageous.

As to the last observation concerning the rank and file, I am obliged to state, that punishments such as "cleaning the latrines," etc., do not exist in our army.

Concerning the manœuvres in Java: they take place daily; besides the ordinary practising of field service by the companies, battalions and brigades separately, we have our yearly great manœuvres, wherefore—as much as possible—all the troops, stationed in the island, are concentrated. For some years past these great manœuvres have been under the personal survey of his Excellency the Commander-in-Chief of the Army.

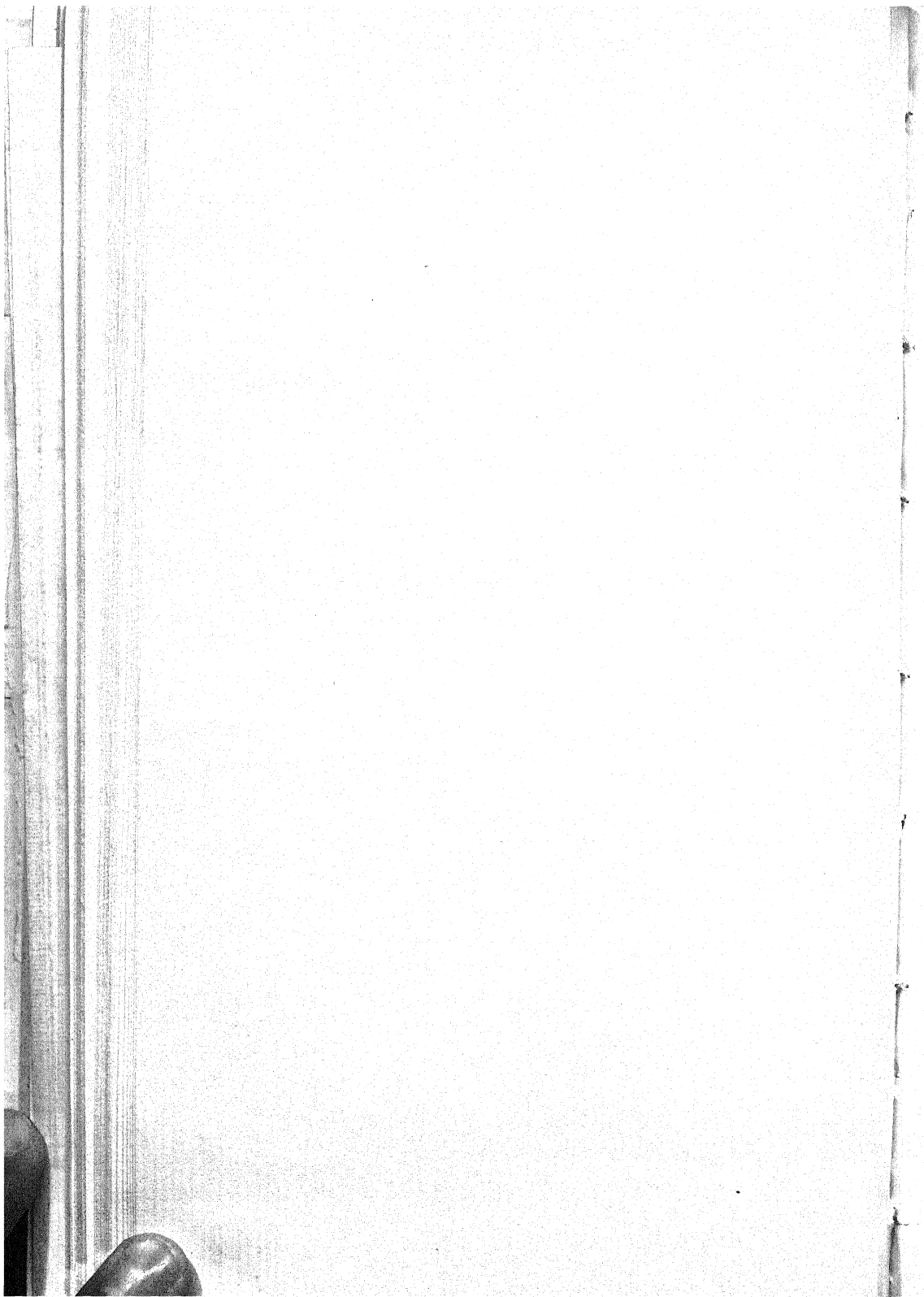
The view which the government has with its pawnshops, is to save the natives from usury; the system of "free labour, given to the creditor" in Java, was abolished years ago.

Although I sincerely regret, that the author has been so badly informed in these matters, I hope that his article may increase the British military officer's interest in our beautiful colonies and that in future he may pay them longer than a fleeting visit. This being so, I should advise him not "to ask a German" but to apply directly to the War Office or to any of my comrades who will surely be glad to give all inquiries desired,

Yours faithfully,

W. F. DINGER,

Captain of the Dutch East Indian Army.



Quarterly Summary of Military News and Items of Interest.

ARMY HEADQUARTERS.—General Staff Branch.

Appointments.—On relinquishing the appointment of Director of Military Operations General Staff, Army Headquarters Major-General A. Hamilton Gordon C.B., proceeded to England, Colonel A. H. Bingley, C.I.E., is officiating in the appointment.

Major R. A. Steel 17th Cavalry took over the duties of Military Attaché, Teheran, from Major Fordham on 16th December.

Military Aviation in India.—The Government of India having sanctioned the establishment of an Indian Central Flying School at Sitapur with effect from the 1st October 1913 the school actively opened on the arrival of the Commandant, Captain S. D. Massy, on the 14th November.

The object of the school is to gain experience in aviation under Indian conditions with a view to its ultimate expansion as a training establishment.

The commandant has entire control of the school under the orders of Army Headquarters.

The school consists of a commandant and 3 flying officers with the necessary medical and subordinate personnel.

The British and Indian subordinate staff consists of civilians only, engaged on contract for specified periods. They are not required to fly and are consequently not eligible for the gratuities and special pension admissible to those injured in flying duties.

In addition to the commandant, two flying officers, Lieutenants C. L. N. Newall and H. L. Reilly have taken up their duties. Captain C. G. Hoare, the third officer is expected to arrive in India shortly. The school has been started on a moderate scale with the sole object stated. At present there are at the school two aeroplanes supplied by Government, and one, named the "Rewa" presented by H. H. the Maharajah of Rewa. Two more are on their way out. The first flight was carried out on the 24th February on the B. E. Machine "Rewa," the first aeroplane to be placed in commission.

Communication in Afghanistan.—It is reported that a motor car service for passengers will shortly be established between Kabul and Jalalabad.

Khaibar Road.—Work on the doubling of the Khaibar roads is being carried on without interruption and it is hoped that they will be complete shortly.

Dir.—A reconciliation is reported to have taken place between the Nawab of Dir and his brother Mian Gul Jan, who last summer rebelled against him.

Buner.—In consequence of two serious raids by the Salarzai and Miriza divisions of the Bunerwals on the villages of Chinari and Bar Garhi of the Peshawar District in which eight British subjects were killed, it was decided to punish these divisions, and the Malakand moveable column, together with the supporting column, was ordered to concentrate at Rustam on the 22nd February.

The Malakand moveable column under Major-General R. Bannantine-Allason, C. B., advanced via the Malandrai Pass against the villages of Zangi Khan and Nawai Killai, situated within the Buner border. By 8 a. m. on the 23rd the Malandrai Pass was occupied by the Guides after slight resistance. Both villages were completely destroyed, six Bunerwals are reported to have been killed, ten were taken prisoners and a number of cattle seized. There were no casualties on our side, the troops recrossing the pass by 2-30 p. m. and reaching Rustam the same evening. The units of the two columns dispersed to their respective stations on the 25th and 26th with the exception of one squadron cavalry, one section mountain artillery and eight companies of infantry, which were retained at Rustam as an escort to the Political Officer pending a settlement with the Buner jirgas.

Gilgit Scouts.—The organization of the Gilgit Scouts who are to replace the old system of levies has been started. Captains Bridges and Shea the Commandant and Assistant Commandant arrived in Gilgit in October last and recruitment for the Hunza and Nagar companies started in November. A durbar was held at Aliabad (Hunza) at which the Mir made a stirring speech, enjoining the new enlistments to maintain the reputation of their country for bravery, etc., and to be unswervingly loyal

to the Sirkar, and a most interesting old time ceremony, which used always to be performed when the tribe was about to engage in battle, was gone through. The general enthusiasm of the country, from the Mir downwards, in connection with the raising of the Corps is very great, and the pick of the flower of the youth of Hunza have come forward for enlistment. It is estimated that apart from the 160 youths actually selected (which number includes representatives from all the leading families in the country) 500 others all of first class material, must have presented themselves for selection, and the only complaint amongst those selected was that the sanctioned period of training (one month annually) was too short.

As an instance of enthusiasm animating these men, it may be mentioned that not only have all agreed to put in an extra month this year on half pay, but each man is providing himself with a kind of uniform made of country cloth of a universal colour, which will be made up to an approved pattern.

The enlistment of the Nagar companies was accomplished with almost equal enthusiasm as in Hunza. An excellent lot of officers and non-commissioned officers was obtained but the men are not of such a good type as those of Hunza. The same arrangements as regards training, uniform etc., have been made as for Hunza.

Enlistment for the remaining companies will be opened shortly. The present strength of the Corps is:—

Hunza	...	165	(including leader.)
Nagar	...	165	" "
Gilgit	}	Not yet raised.	
Punnia			
Yasin			
Gizr			

Tibetan Students in England.—The four young Tibetans, sons of native governors, who were sent to England to receive an English education, having completed a seven months course at Aldershot, have gone to Rugby. It is stated that they have made remarkable progress.

Mussalman population of Turkistan.—The total Mussalman population of Turkistan is $6\frac{1}{2}$ million of which the greater part are Ferghana and Sir Darya.

Turkish Army.—It is reported that the following new distribution and organisation of the Turkish Army has been sanctioned.

The Army to consist of 14 corps, each composed of 3 infantry divisions, with a proportion of cavalry and artillery, the headquarters of the corps being as follows:—

I. Constantinople.	VIII. Damascus.
II. Adrianople.	IX. Erzinjan.
III. Gallipoli.	X. Erzerun.
IV. Smyrna	XI. Van.
V. Konia	XII. Mosul.
VI. Angara	XIII. Baghdad.
VII. Aleppo	XIV. Yaman.

Turco-Persian Boundary Commission.—Work on the Turco-Persian Boundary Commission is now proceeding.

Baghdad Railway.—Work is being rapidly pushed on. The track is for a single line of a gauge of $1\frac{1}{2}$ metres. The estimated date of opening through to Constantinople is the end of 1917.

Wireless Telegraphy in Japan.—The War office has decided to organize a wireless telegraphy corps and a vote for this purpose has been included in the estimate for next year. For the present two wireless companies will be raised.

Adjutant General's Branch.

The Government of India has approved of the following amendment to dress Regulations:—

Retired Officers.—General Officers, including those holding honorary rank, will wear the uniform of their rank, with the letter "R" on their Shoulder cords or straps, below, and of the same material as the badges of rank. If Colonels-Commandant or Colonels of regiments they may alternately wear regimental uniform, with shoulder cords or straps and badges of rank as for Colonel, without letter "R."

General Officers retired from corps and departments will wear the uniform prescribed for them whilst on the active list, with the letter "R" as above.

Retired Officers of the regular Army below the rank of General Officer may wear the uniform of the regiment, corps, or department in which they last served; or in the case of substantive Colonels and other Officers, who before retirement were

not on the cadre of a regiment, corps, or department, the prescribed uniform of their rank; the letter "R" being worn on the shoulder cords or straps below the badges of rank. With the exception of retired General Officers, who are extra Aides-de-Camp General to the King, the aiguillette and other staff distinctions will not be worn by retired Officers.

Officers, who retired before the abolition of gold laced trousers, will wear trousers or pantaloons with cloth stripes, or welts, of the prescribed pattern; and whenever retired officers require to renew other articles of dress, the latest approved patterns will be followed.

Retired Officers, if re-employed on Army Service are required to provide themselves with service dress and mess dress only. The provision of any other uniform is optional.

Retired Indian Officers may wear the uniform of the unit or corps, in which they last served. Those who continue to attend Durbars after retirement, in virtue of their military rank, should wear the uniform of that rank.

The Secretary of State has sanctioned revised regulations, as under, governing regimental appointments in the Indian Army.

I. *Commandant*.—The tenure of Commander is in future to be limited to four years. Commandants of Cavalry will be vacated on attaining 50 years of age; of Infantry on attaining 52 years of age.

II. *Other Officers*.—Cavalry Officers shall be ineligible for appointment as Commandants after attaining the age of 48 years. Infantry Officers on attaining the age of 50.

Officers vacating under I or electing removal from the cadres of their units under II are eligible for the benefits admissible under A. R. I. Vol. I. para 163. A. *i.e.* they receive furlough pay up to a limit of two years and unemployed pay at £500 p. a. subsequently until they qualify for the full pension.

From 1st July 1914 Indian Officers other than those of the Indian Subordinate Medical Department must retire on completion of 32 years pensionable service except in certain special cases when H. E. the Commander-in-Chief may sanction retention for a further specified period.

Quartermaster General's Branch.

Railway Transport Course. In India during war time on the principle of utilizing to the fullest extent possible all the resources of Government, the entire working of all railways, whether during the initial concentration or in the theatre of operations, is undertaken by the civil railway department of the Government. It is therefore all the more advisable that the officers of a Railway Transport establishment, whose duty it is to act as intermediaries between the troops and the railway officials, should appreciate the difficulties of traffic working and understand the need for modifying any unreasonable demands which would tend to upset that even flow of traffic so important in a large movement of troops by rail.

In order to give a training to officers to fit them for these duties a course of instruction was carried out by the Agent of the N. W. R. administration in January. Some 30 officers attended the course which lasted about a month. The course consisted, for the first ten days, of a series of lectures at railway headquarters, Lahore, dealing with the railway systems of India, their capacities, and the use made of them for war movements, the organization of a railway administration, the general principles of signalling, traffic control, and cognate matters. The large Lahore yards and works formed an excellent medium for the practical illustration of the matter contained in the lectures.

The next ten days were spent at various district headquarters and large junctions where the duties of the running staff, the powers of control of a district executive staff, the distribution of stock, the actual application of the principles of traffic control were practically illustrated.

Finally the officers dispersed to certain stations, where officers of the Railway Transport Establishment would be appointed under various programmes of movement, and applied the knowledge they had gained in drawing up reports on the stations and in working out certain problems, under instructions from Army Headquarters.

BURMA DIVISION.

RIFLE MEETINGS.

1. A very interesting and well-attended Rifle Meeting was held by the Rangoon Volunteer Rifles for six days during December 1913. The experiment was tried of making the use of the service rifle compulsory in all but one match and although there was a certain amount of adverse criticism before the meeting on this ruling, the general opinion in the Corps is now, that the results of the meeting prove that the ruling was sound, and that this condition should be enforced at all future meetings.

This result is perhaps interesting in view of the controversy at home now concerning the Bisley Meeting rules.

2. A Corps Rifle Club has now been formed which it is proposed to amalgamate with the National Rifle Association.

3. In connection with (2) it is proposed to enter a Corps team for Bisley this year from members who will be at home on leave.

ATHLETIC MEETINGS.

The Royal Munster Fusiliers entered for the Burma Divisional Assault-at-Arms and won the Dyer Challenge Cup by the narrow margin of two points.

Naick Kartar Singh, 66th Punjabis, won the open mile Royal Presidency Meeting 1914—this being the fourth year that he has won it consecutively.

MISCELLANEOUS.

No. 64 Company. Royal Garrison Artillery, carried out Class Firing from the River Forts, (Syriam and King's Bank) at Rangoon during the first week in January 1914.

There were six series in all, and an average figure of merit of 1,774 was obtained, which as far as is known constitutes the world's record for Royal Garrison Artillery.

The Moulmein Volunteer Artillery went into Camp for 10 days at Nattaung from 28th November and 7th December 1913. The annual gun practice was carried out on 29th November and 7th December. The Corps was inspected on the 29th November by the Inspector of Volunteers in India.

A patrol of 22 men and one officer, half being mounted on horses and half on motor cycles, of the Rangoon Volunteer Rifles were on duty in connection with the Rangoon Port Defence Scheme for 30 hours during February. The combination worked very well, the mounted men being used on the ground impossible for cyclists. As a lesson from the many minor accidents to the motor cyclists during the night, it would seem evident that these should work in pairs.

ROYAL INDIAN MARINE.

Pension.—From November 9th 1913 new pension rules on a graduated scale of yearly increment from 20 to 30 years were sanctioned by the Secretary of State for India.

Retirement.—Commander C. J. Sinclair, January 7th 1914 Commander T. A. de Berry, March 5th 1914. Commander I. J. Calderon has been granted leave out of India up to May 12th pending retirement. Engineer E. A. Vile invalided out of the service 31st December 1913.

Appointments.—Commander B. H. Jones appointed Port Officers in Chittagong in succession to Commander E. G. Mills. Commander G. H. S. La Touche to the Northbrook in succession to Commander C. Gardner invalided. Lient. J. C. Ward to be Asst. Port Officer Calcutta in succession to Lieut. O. Goldsmith. Lieut. E. C. Withers to be Asst. Intelligence Officer The Persian Gulf. Chief Engineer C. T. Amor to be 2nd Engineer and Shipwright Surveyor to to the Government of Bengal in succession to Chief Engineer A.A. MacDonald Engineer, W.W. Collins to be Engineer and Harbour Master Port Blair in succession to Engineer E. Guppy.

SHIPS.

Hardinge.—In addition to her trooping programme, carried General Sir O'Moore Creagh, V.C., Commander in Chief in India and Staff on a cruise of the West Coast of India in November 1913, visiting Pir Bunder, Kharwar, Goa, Cochin, Janjeisa and Ratnagiri. In January 1914 carried Sir Benjamin Robertson from Bombay to Durban on a special mission, and in February carried the Governor of Bombay and Staff on an official visit to Karachi and Scinde.

Dufferin.—In addition to her trooping programme has been employed as Station Ship at Port Blair between January 16th and March 18th relieving the Northbrook for that period.

Northbrook.—On relief by Dufferin at Port Blair proceeded to Bombay to be fitted with wireless telegraphy, returning to Station Ship duties in March.

Mayo.—Continued her duties as tender to the Lighthouses and Light Ships on the coast of Burma, carried the Lieut.-Governor on an official tour of the Aracan coast in January 1914.

Dalhousie.—Station Ship at Aden,

Investigator, and Palinurus.—Continuing the surveys in the Mergui Archipelago and Persian Gulf respectively.

Minto.—In Persian Gulf on special duty under the Senior Naval Officer.

Lawrence.—In Persian Gulf at the disposal of British Resident, and tending the Lighthouses and Light Ships in the Persian Gulf.

The following Port appointments, under local Governments are at present held by officers of the Royal Indian Marine.

BOMBAY.

Port Officer, Bombay Commander St. L. S. Warden.

Asstt. Port Officer, Bombay, Commander C. W. Shearme.

First Engineer and Shipwright Surveyor to the Government of Bombay, Chief Engineer F. Olford.

Second Engineer and Shipwright Surveyor to the Government of Bombay, Engineer A. Baker.

Third Engineer and Shipwright Surveyor to the Government of Bombay, Engineer W. Waters.

Port Officer, Karachi, Commander N. F. J. Wilson.

Port Officer, Aden, Commander C. B. Henley.

BENGAL.

Port Officer, Calcutta, Commander C. J. Kendall, D.S.O., A.D.C.

Deputy Port Officer, Calcutta, Commander G. N. Forteach.

Asst. Port Officer, Calcutta, Lieut. I. C. Ward.

Second Engineer and Shipwright Surveyor to the Government of Bengal, Chief Engineer C. Amor.

Third Engineer and Shipwright Surveyor Government of Bengal, Engineer W. Horley.

Port Officer, Chittagong, Commander B. H. Jones.

Engineer and Shipwright Surveyor, Chittagong, Engineer A. H. de Woolfson.

Engineer, River Police Department, Narayangunj, Engineer G. H. Rowe.

MADRAS.

Presidency Port Officer, Commander W. H. Huddleston, A. D. C.
Deputy Conservator of the Port of Madras, Commander D. F. Vines.

BURMA.

Principal Port Officer, Commander S. D. Vale, A. D. C.

First Assistant Port Officer, Rangoon, Commander A. G. Bingham.

Engineer and Shipwright Surveyor and Superintending Engineer to the Government of Burma, Chief Engineer, H. Robertson.

Assistant to the above Engineer, Engineer G. Hill.

Port Officer, Akyab, Commander A. R. Willock.

Port Officer, Bassein, Commander A. St. C. Bowden.

Port Officer, Moulemein, Commander E. Stocken.

Marine Transport Officer, Mandalay, Commander A.E. Harold.

Superintending Engineer, Mandalay, Engr. W.C. Constable.

ANDAMAN ISLANDS.

Engineer and Harbour Master, Port Blair, Engineer, W. W. Collins.

Reviews of Books.

"The Historical Records of the 34th (Prince Albert Victor's Own) Poona Horse," by Major G. M. Molloy. Published by Hugh Rees, Limited.

That regimental historical records foster *esprit-de-corps*, is undeniable. The records, however, of such a corps as the Poona Horse open up a wider field of interest, not only to the officers of the regiment itself but to those of the army in general.

The compiler laments, in the preface, that records of the early part of the corps' existence were conspicuous by their absence, but the fact remains that in the book there is more incident related of the earlier portion than the later. The larger history, foreshadowed for publication in 1917 when the regiment will be celebrating its centenary, will be looked forward to, for there is matter in the records which has the makings of a history of more than usual interest.

We would gladly know more of the spirit of the times which in 1827 caused an officer to be court-martialled for challenging another to a duel, but in 1830 court-martialled another for 'suffering himself to be insulted by a civilian.' It is difficult in these days of 10 lbs. kits to read without a smile the list of Lieut. Swanston's baggage and its contents which he lost at the time of the famous fight at Corygaum. It would also be entertaining reading if some of the details could be divulged of the acrimonious discussion which ensued between the same Captain Swanston and the Army Prize committee on the question of the rightful ownership of a small matter of two lacs worth of captured property; those were certainly good old days! for Captain Swanston appealed against the Controller of Accounts of the time—and won.

The instructions issued for the organization of the Poona Horse are very interesting reading and are full of excellent advice on the relations between European officers on the one hand, their Indian officers and men on the other: One can hardly forbear wondering whether there is any equivalent in our present regulations for the paragraph 'a horse missing after an action is only to be paid for if the owner is wounded'!

The circumstances of the delocalization of the Poona Horse, the rise in the cost of remounts and of grass mules, the question of horse runs illustrate the difficulties which regiments have to contend with under the 'Sillahdar' system transplanted into present day conditions. The anxiety with which

many commandants must nowadays regard the administration of the regimental funds for horses, mules, tents, clothing, saddlery, local line repairs, grass operations and the like can have had no counterpart even 25 years ago; nor can the responsibility now attending the training for war be compared with the light hearted leading of the old irregular cavalry times.

While congratulating the compiler on his success in the production of the book it is hoped he will not take amiss the advice to reconstruct, in the next edition, the sentence which begins at the bottom of page 2 and runs on to the 8th line of page 3; the text is also marred in many places by the too frequent and inappropriate use of the conjunction "and."

Cavalry Tactical Schemes, translated from the French of Colonel Monsenergue, by Lieutenant E. L. Spiers, 11th Hussars. Published by Hugh Rees, Ltd., London. Price 6s.

Readers of *La revue cavalerie* will remember the publication of these schemes in that journal in 1911. We can heartily recommend their translation to all cavalymen not only for the suggestive value of the problems, but for the interest of the solutions, and we feel sure that no cavalry regiment will regret having a copy in their library. Since no officer of the British service has produced similar tactical studies for units of our own organizations, to test the application of our own principles of cavalry training, we cannot but be grateful to Lieutenant Spiers for the service he has done in presenting in our own language these studies by our French ally.

No more able British cavalry soldier could have been found to write an introduction than Brigadier-General H. de la P. Gough, and the introduction considerably enhances the value of the book. We regret we cannot say quite as much for the preface by Mr. Bannet-Goldney as we are of opinion that his reflections on the mounting of our British cavalry and the inadequate pay of the British cavalry subaltern would have been better placed in a newspaper article, or monthly magazine, than in a book which should be of more than ephemeral interest. Nevertheless Mr. Goldney's preface has a value in that he brings out the differences between French practice and our own;—the encouragement of movement at a gallop;—the constant charge;—the use of cyclist units in conjunction with cavalry. He also draws attention to Colonel Monsenergue's advocacy of the squadron scouts in a separate fifth troop for such work as distant reconnaissances and important duties requiring special skill.

The great value of the book lies, as General Gough says, in the assistance the problems and situations can give to officers of all grades in preparing similar problems for the benefit of their subordinates, and also in helping them to arrive at the best way of conducting both instruction and criticism.

The book contains twenty two problems, the solution of which any troop leader may find himself confronted with ; seven problems for squadron commanders and their units; half a dozen for those who may find themselves in command of a couple of squadrons with a machine gun or two, or some cyclists; and finally 6 schemes to do with such mixed detachments as senior regimental officers may at any time have to command temporarily.

Each problem consists of a general and special idea followed by an imaginative and descriptive account of the action taken to meet the various incidents which arise out of the special idea ; the director, who is the setter of the problem in question, then criticises its execution and finally the more senior officers to whom the solutions are passed for information, added their remarks.

The outstanding feature of the criticisms is the remarkable way in which initiative, courage, and daring is fostered, and even rashness encouraged. As General Gough says 'the first, and by far the most important, duty of military instruction of all ranks is to inculcate into their subordinates the right SPIRIT—namely, the fearlessness of responsibility, energy, and activity, with a keen desire always to assume the offensive, and attack or counter-attack the enemy, rather than to submit passively to his action.'

There are several instances of carelessness in the production of the book which one does not expect to find in publications under aegis of Messrs. Hugh Rees :—On page 46 the words 'right' and 'left,' and on pages 64 and 65 'northern' and 'southern' have got transposed ; in several places references are made to letters which do not appear on the plans, or references are given in the text with large capitals while in the plans they are in small type.

German Official Account of the Russo-Japanese War, between San-de-Pu and Mukden. Translation by Karl von Donat. Publishers Messrs Hugh Rees.

This volume deals with raids of the Japanese and Russian cavalry on the lines of communication before and during the battle of Mukden, and with the preparations on both sides for that battle.

It is interesting to note the marked differences in the results attained by the Japanese and Russian raids. The Japanese detachments, under Lieut.-Colonel Naganuma and Major Hasegawa, consisted of 160 and 104 troopers

respectively, the actual damage to the railway line achieved was of small account, but their active operations resulted in 12 battalions, 8 squadrons, 34½ sotnias, 36 guns, and 10,000 men coming up as drafts, being detached from the Russian field army to guard the railway. The Russian railway party under Colonel von Gillenschmidt, over 300 strong, succeeded in damaging an important bridge at Hai Tscheng, but this had no effect on the Japanese operations.

The Russian intelligence service magnified the small Japanese detachments into a force of 14,000 Japanese with artillery. In the light of after knowledge it is difficult to conceive why the Russian staff accepted such an estimate. The Japanese command, ingrained with the teaching of Clausewitz, fully appreciated the value of concentration of force, and their opponents might have known that a superior command so trained was incapable of detaching a force of nearly a division from the decisive point.

In studying the interesting description of the preparations for the battle of Mukden it is instructive to compare the clear intention expressed in Marshal Oyamas' orders with the indecision which reigned supreme at Russian headquarters. Oyamas' order states "the object of the impending battle is to decide the war. It is therefore not a question of capturing positions or portions of ground, but of defeating the enemy decisively."

In contradistinction to this determination to conquer we find General Kuropatkin issuing two circulars in which he takes counsel of his fears and of his army commanders. The latter, he asks—"Do you think it possible, in the given military situation, to turn one attack into a decisive battle?"

The Training of Infantry Company by Major E. Kirkpatrick, I. A.—Publishers, Messrs Gale and Polden, Ltd. 2s. 6d.

In his preface the author explains that he makes no attempt to cater for the experienced trainer of troops, but rather for those individuals who, with little time for study and with limited experience, are called on to convert those under their command into a force capable of acting successfully in war.

The author is, we think, too modest. There are few junior officers of infantry who will not benefit by a study of these pages. The thorough system of training elaborated in the seventeen exercises, which form the major portion of the book is worthy of the attention of regular as well as of volunteer officers.

These elementary exercises deal with the essentials in the war training of the infantry soldier, from the work of the individual in advance and retirement, and of the section in action and on protection duties, to the training of the company in attack and defence and outpost.

As an example of a system of training illustrating the necessity of attention to detail in the early instruction of the soldier, this series of exercises is valuable, and their value is increased by the constant reference to training manuals. The author wisely recommends the study of all the official books referred to, as he recognizes that his exercises and comments are only of value in so far as they illustrate and explain the principles laid down in training manuals.

Writing as he does for the inexperienced company commander, Major Kirkpatrick would, it is thought, have been well-advised to lay more stress on the responsibilities for training of their units of subalterns and section commanders.

Officers and section commanders making use of this book must remember that the "exercises" are not intended to be blindly followed, but rather are examples to stimulate their imaginations in devising schemes for the instruction of their men. If taken in this spirit the book is recommended.

Notices of Books.

Hygiene and Diseases of India, by Lieutenant Colonel Patrick Hehir, I.M.S.

The author has attained his object in producing a scientific work in popular and understandable language for the use of the ordinary layman. It is a book that should prove invaluable to the junior student, the Indian student, and particularly to the layman who takes an interest in hygiene and health in India.

Its perusal is strongly recommended to all students and it should find a place in all regimental libraries.

Bohemian Campaign of 1866, by Major R. F. Uniacke, Royal Inniskilling Fusiliers, price 1s. 6d.

The book consists of three lectures delivered at Dover. The author points out clearly how the principles laid down in our training manuals were regarded or disregarded as the case may be. It is in no sense a cram book and should prove useful to officers studying this Campaign for examination purposes.



UNITED SERVICE INSTITUTION OF INDIA

JULY 1914.

SECRETARY'S NOTES

I.—New Members.

The following members joined the Institution between the 16th March 1914 and the 30th June 1914, inclusive:—

LIFE MEMBER.

2nd Lieut. E. W. Brett.

ORDINARY MEMBERS.

Lieut. R. Y. Sidebottom.
H. A. F. Lindsay Esq.
Captain A. H. Burnett.
Major J. C. Robertson.
Major W. B. Lesslie.
Rev. J. Black.
Surgeon-General W. Pabtie, V.C.
Lieut.-Colonel T. O. Marden.
Major A. G. Prothero.
do B. E. Crocker.
do G. P. Hoggan.
do R. T. Toke.
Captain E. H. H. Westby.
do R. H. Montgomery.
Lieut. L. Phillips.
do G. A. Lloyd.
do L. M. B. Salmon.
do H. G. Evans-Jones.
do B. T. Phillips.
Lieut. G. S. Brewis.
do R. T. B. Pope.
do G. P. de B. Monk.
do G. W. Egerton.
do C. H. Dundas.
do A. C. Whitehorne.
2nd Lieut. E. M. Douglas.
do H. W. W. Davis.
2nd Lieut. C. E. N. Lomax.
do F. I. P. Wells.

2nd Lieut. J. G. Smyth.
Major A. H. P. Harrison.
Lieut. J. Price.
Lieut. Colonel F. R. E. Lock.
do do Sir P. Z. Cox.
Captain O. C. Wilkinson.
Major-General C. V. F. Townsend.
Lieut. P. C. Chapman.
Captain W. H. V. Cameron.
Captain M. H. Lucas.
" P. G. H. Hogg.
" A. I. Fraser.
Lieut. the Hon. R. A. Addington.
Captain W. Gibson.
Colonel P. Hehir.
Brig.-General G. M. Kirkpatrick.
Captain A. C. Ellis.
Lieut. V. G. Duke.
G. E. S. Cubitt, Esquire.
Lieut.-Colonel G. D. L. Chatterton.
Lieut. W. Cave-Brown.
Major H. H. Turner.
Lieut.-Colonel G. W. Tribe.
Dr. G. C. Simpson.
Captain H. G. Sutton.
General Sir B. Duff.
Lieut.-Colonel C. C. Fenner.
Major F. E. Dunn.

II.—Tactical Problems.

In order to assist officers, tactical schemes are issued by the Council of the Institution, to members only, at Rs. 5 per scheme, which include criticisms and solutions by a fully qualified officer selected by the Council. 26 schemes are now available.

A number will be allotted to each member applying for papers, and solutions must be sent under these numbers to the Secretary, Simla.

III.—Military History Papers.

(i). In order to assist officers in the study of military history, the Institution has for issue, to members only, sets of questions on selected campaigns. The following papers are now available:—

- (a) One paper on the Waterloo Campaign.
- (b) Three papers on Callwell's Small Wars.
- (c) Two papers on the strategy of the Russo-Japanese War,
- (d) Four papers on the battles of the Russo-Japanese War.
- (e) Two papers on the Afghan War, 1879-80.
- (f) Two papers on the Crimean War.
- (g) One paper on the Indian Mutiny.
- (h) One paper on the Shenandoah Valley Campaign, 1861-62.
- (i) One paper on the Bohemian Campaign, 1866, to the Battle of Koniggratz, inclusive.
- (j) One paper on the Jena Campaign, 1806.
- (k) One paper on the Franco-German War, 1870.

The charge for these papers is Rs. 5 each, which includes criticism by fully qualified officers selected by the Council.

A number will be allotted to each member applying for papers, and answers must be sent under these numbers to the Secretary, Simla.

(ii) Pamphlets dealing with the Shenandoah Valley Campaign from April 1861 to June 1862, the Bohemian Campaign, 1866, to the battle of Koniggratz, inclusive, and the Battle of Liouyang, can be obtained from the Secretary. Price Re 1 each, or Re. 1-2-0 per V.P.P.

IV.—Roll of Members,

Copies of the Roll of Members, are available. Price Rs. 1 per copy.

V.—Premia for Articles in the Journal.

As it does not seem to be generally known that articles are paid for, members are informed that a sum of approximately Rs. 400 is awarded for articles and reviews published in each Quarterly Journal.

VI.—Library Catalogue.

The library catalogue revised up to 1st November 1912 is available. Members requiring copies should kindly inform the Secretary. Lists of books since received are published quarterly with the Journal.

Price of catalogue Re. 1, or Re. 1-4-0 per V. P. P.

VII.—Books, etc., presented to the Institution.

The acknowledgments of the Council for the following presentations are hereby recorded:—

Presented by Brig. General O. B. S. F. Shore.—

"Vor 50 Jahren", by von Karl Bleibtren.

Presented by Lieut.-Colonel J. Alban Wilson 1-8th Gurkha Rifles.—

"The Military Mentor," Vols. I and II, 1804.

"Rough Notes of the Campaign in Sind and Affghanistan in 1838-39, by Captain James Outram, 1840.

"Narrative of the Mutiny of the Officers of the Army in Bengal in the year 1766," by H. Strachey Esq., Secretary to Lord Clive, 1773.

"The Rambles of Redbury Rook," 1826.

"Advice to the Officers of the British Army," 1783.

Presented by Major H. Biddulph, R. E:—

"Indian War Medals."

Presented by Secretary, Board of Examiners, Calcutta:—

"Colloquial Hindustani and Bengali," by Mr. N. C. Chatterjee.

Presented by Lieut. Colonel S. H. Powell, R. E:—

Two photographs of drawings of the Battle of Gluznee, 1839.

Presented by Officer Commanding, 5th Light Infantry:—

"A short history of the 5th Light Infantry—from 1803 to 1913.

Presented by the Commandant and Officers, 33rd Q. V. O. Light Cavalry:—

"The Regimental History of the 33rd Q. V. O. Light Cavalry."

VIII.—Gold Medal Prize Essay, 1914-1915.

The Council have chosen as the subject for the Gold Medal Essay for 1914-15 the following:—

"Recognising that the Domiciled Community of India is of value for military purposes, what is the best method of utilizing it? Give suggestions for its organization and training."

The following are the conditions of the competition:—

(1) The competition is open to all gazetted officers of the Civil Administration, the Navy, Army, and Volunteers.

(2) Essays must be printed or type-written and submitted in duplicate.

(3) When a reference is made to any work, the title of such work is to be quoted.

(4) Essays are to be *strictly anonymous*. Each must have a motto, and enclosed with the essay there should be sent a *sealed* envelope with the motto written on the outside and the name of the competitor inside.

(5) Essays will not be accepted unless received by Secretary on or before the 30th June 1915.

(6) Essays will be submitted for adjudication to referees chosen by the Council. No medal will be awarded if the Council consider that the best essay is not of a sufficient standard of excellence.

(7) The name of the successful candidate will be announced at a Council Meeting to be held in August or September 1915.

(8) All essays submitted are to become the property of the United Service Institution of India, *absolutely*, and authors will not be at liberty to make any use whatsoever of their essays without the sanction of the Council.

(9) Essays must not exceed 15 pages of the size and style of the Journal, exclusive of any appendices, tables or maps.

IX.—Northern and Southern Army Prize Essays.

The Council will award the sum of Rs. 150 each on the usual conditions, for the best essays sent in from members of the Northern and Southern Armies by the 31st December 1914, on subjects selected by their respective Army Commanders.

The following subjects have been selected:—

Northern Army.—"The physical training and man-mastership of the soldier (British and Indian) in India."

Southern Army.—

"A consideration of the question of recruiting in Southern India for the Indian Army; with suggestions for improving the same or for tapping sources not at present utilized."

"A consideration of the extent to which the strategical and tactical lessons of the Russo-Japanese War have been confirmed or modified by the late war in the Balkan Peninsula."

X.—Contributions to the Journal.

With reference to Army Regulations, India, Volume II, paragraph 483, and King's Regulations, paragraph 453, as amended by Army Order 340 of 1913, intending contributors to the Journal of the United Service Institution of India are informed that action to obtain the sanction of His Excellency the Commander-in-Chief to the publication of any article in the Journal of the United Service Institution of India will be taken by the Committee. Contributors are, therefore, responsible that the sanction of their immediate superior has been obtained, and this should be noted on all articles sent for publication. Articles need not be submitted in duplicate.

Contributors are requested to have their articles either typed or printed.

XI.—Programme of Lectures, 1914.

16th June, 3-15 p. m.—

By Captain D. C. Crombie, 23rd Cavalry

Subject:—"Land and Sea Warfare. Compared."

Lieut. General Sir P. H. N. Lake, K. C. M. G., C. B., will take the Chair.

23rd June, 3-15 p. m.—

By Captain D. C. Crombie, 23rd Cavalry.

Subject:—"Land and Sea Warfare. Combined."

Lieut. General Sir P. H. N. Lake, K. C. M. G., C. B., will take the Chair.

10th and 16th July, 9-30 p. m.—

By Doctor G. C. Simpson,

Subject:—"The British Antarctic Expedition."

The Hon'ble Sir R. W. Carlyle, K. C. S. I., C. I. E., I. C. S., will take the Chair. The proceeds of the Lecture will be devoted to "The Oates Memorial Fund."

21st July, 3-15 p. m.—

By Brig.-General W. P. Braithwaite, C.B., Commandant, Staff College, Quetta

Subject:—"The Study of Military History."

H. E. the Commander-in-Chief will take the Chair.

18th August, 3-15 p. m.—

By Major R. St. C. Battine, 21st Cavalry F F.

Subject:—"With Kirghiz and Cossack."

Lieut.-Colonel Sir P. Z. Cox, K. C. I. E., C. S. I., will take the Chair.

8th September, 3-15 p. m.—

By Lieut.-Colonel Colin L. Macnab, The Royal Sussex Regiment.

Subject:—"1870."

Major-General F. J. Aylmer, V. C., C. B., will take the Chair.

The Journal

OF THE

United Service Institution of India.

Vol. XLIII.

July 1914.

No. 196.

As Told to the Children.

BY PADDY BUTTON.

I.

Giants in General.

There were giants in those days and they parcelled the world among them.

They were of all kinds and descriptions ; you could not select a pair that were exactly alike in all respects. There were good-natured giants and irritable giants ; complacent giants and discontented giants ; long, thin, enterprising giants that everyone voted a bore and a nuisance, and short, fat, blasé ones who were quite pleased to sit at home all day and do nothing but mind their own business.

They were of all colours—white, pink, red, brown and yellow. There was, as a matter of fact, one sky-blue-scarlet giant, but he was distinctly exclusive in his habits and lived alone in his castle at some distance away from most of the others, to the westward, and doesn't really come into this story. One giant, who does come into the story towards the end, had a fiery red complexion, a round empty stomach, an anxious expression on his face, as if he did not always get quite enough to eat or was, perhaps, suffering from an attack of indigestion, and—green eyes ; so you'll guess at once that he was one of those discontented, irritable giants that I have just been telling you about.

There were giants who had such tender feet that they constantly imagined that other people were for ever treading on their corns, when they weren't ; and, on the other hand, there were giants who had such a hard skin and wore such big boots that, even if you had been inconsiderate enough to stamp on their toes, I really don't believe that they would have minded so very much,

One good-natured giant—his name was Sir Front de Boeuf—had webbed feet like a duck. It was commonly reported, too, that he had a tail as well, but I have never been able to verify this rumour to my satisfaction. If he really had one, I think he must have been very ashamed of it, poor fellow, because he kept it so carefully tucked away and concealed, that I never met anyone who could swear that he had actually seen it with his own eyes. It is certain, however, that all the other giants used to say how amusing it was to twist this poor giant's tail; so I suppose that there must have been some foundation for the rumour. You can't twist the tail even of a good-natured giant, if he hasn't got one. Manifestly that would be absurd.

This Sir Front de Boeuf was a big giant. You may think that it is unnecessary to say so and that it goes without saying, because all giants are big. So they are, if you compare them with ordinary mortals like you and me. But, although they may seem enormous when compared with us, they do not appear to be anything so very extraordinary when compared with each other. At any rate, I know that, at the time of which I am telling you, besides being of all kinds and descriptions and colours and temperaments and shapes, these giants were of all sizes as well. In fact there were big giants and medium-sized giants and quite small giants.

After all, this was only natural and reasonable. It is just the same with ordinary men. But what puzzled everybody then—and does so still even now—was the reason why one particular giant should be big while another particular giant, very possibly the first particular giant's next door neighbour, should be small and insignificant.

Some people were inclined to think that it must have something to do with the size of the estate which each particular owned. I grant you that a giant must have an estate and every right to manage it and plant trees on it and evict the tenants from it, exactly as he pleases. Otherwise you could not regard him as the Great Power (or the Little Power, either) that he undoubtedly was in the world; in fact he wouldn't be a giant at all. But if it depended entirely on the extent of their property, I suppose that the size of respective giants would have been in proportion to it; and this was not the case. If it had been, you would have expected that Sir Front de Boeuf and a certain white pallid giant who lived to the northward, who were by far the largest landowners at the time, would also have been by far the biggest giants in the world. But they were not. At least there was scarcely any appreciable difference in size between them and the green-eyed giant, for instance, who had scarcely added anything to the comparatively small estate that he had inherited from his ancestors, and was, besides, painfully conscious that the few additions that he *had* made hardly repaid him for all the trouble and worry of looking after them. And when, on a certain celebrated occasion, another big giant, called Sir Plein d'Esprit, lost quite a large portion of his ancestral demesne, it did not seem to make any great difference to his length of limb or breadth of shoulder. Still, I admit that, although there were several big giants who had small estates, you very rarely ever came across a small giant with a big estate. So I suppose that there must have been some truth in the theory.

And then there was the 'diet' explanation. You must know that the food of the giants was almost as varied as their characteristics and it might be thought that possibly it formed the governing factor in their size. It was rather difficult to discover exactly what some of the smaller giants lived on and one sometimes wondered why they lived at all, instead of wasting away and dying of starvation. But if you considered the matter carefully, I think you would find that their diet consisted chiefly of their neighbours' forbearance and the reputations of their forefathers. One medium-sized giant, who was, however, shrinking slowly

and surely, undoubtedly lived on unfulfilled promises and the jealousies of his neighbours. None of these things are exactly what you would call wholesome, or even substantial, food, certainly not the stuff to produce a fine, big, upstanding giant. So the diet theory seems to account reasonably enough for the size of the *small* giants.

But I am afraid that it breaks down when you come to consider the question of the *big* giants. You might suppose that, as Sir Plein d'Esprit and the green-eyed giant were both much of a size, they would, logically, eat much the same sort of food. Not a bit of it. Their respective diets varied from each other as much, I suppose, as diets could vary. Sir Plein d'Esprit lived on ginger, optimism, high spirits, memories of past glories and the determination to do better next time. This is not a very solid or satisfying diet, you'll say, but to make up for it, he had a splendid digestion and a great heart, which account for most things in the world of giants as they do in the world of ordinary men.

The green-eyed giant's food was quite different from that. It consisted of leaden bullets, fixed bayonets, mailed fists, steel shavings, bits of scrap iron, hard nuts, and rules and regulations of universal application which could never be broken. The other giants used to think that this diet was very largely responsible for the indigestion and total lack of any sense of humour which were the chief characteristics of this giant. But when they ventured—most tactfully, of course—to tell him so, he only replied that he preferred this kind of food as it suited his constitution; so there was nothing more to be said. But I think that you will admit that such food, though it was undoubtedly solid, was scarcely satisfying.

If you do, then I think you must also agree that Sir Front de Boeuf's was just the reverse—satisfying, but not solid. For *he* lived on bales of raw cotton, quantities of uncarded wool, currency notes, bills of lading, firsts and seconds of exchange, some good, sound, practical commonsense (or what he recognized as such) and a little sentiment thrown in, like a dash of Angustura Bitters. The strangest thing about Sir Front de Boeuf's diet was

the problem how he ever come to adopt it. None of its ingredients were really indigenous to his estate when he first began to grow up, and as he got bigger and bigger and required them in greater quantities, so they seemed to thrive less and less on their native soil, and Sir Front had to get more and more of them from the other giants. Even commonsense eventually ceased to be a home production and had to be imported from abroad—so at least his wife said, and I suppose she knew what she was talking about. The only thing that did seem to become thoroughly acclimatized and to spring up in large quantities all over the estate was the last ingredient of all—sentiment. This was a pity, because a little bitters goes a long way and, if unduly indulged in, is calculated, in time, to sap even the finest constitution. However, Sir Front de Boeuf said that his diet suited him splendidly and that it did not matter how much of it was provided by the other giants, so long as it *was* provided—in sufficient quantities—and he himself remained stout and prosperous and good-natured. All he asked was to be left alone and not worried about things he could not understand.

So I don't think that either the extent of their estates nor the diet on which they subsisted can, of themselves, account satisfactorily for the varying size of different giants. No doubt these things had a good deal to do with it, but I am sure that a lot depended on the amount of self-esteem with which each particular giant regarded himself, for I never yet heard of a big giant who had been diffident about himself before he began to grow up.

If a giant thought a lot of himself and acted accordingly, he nearly always became big; and if the other giants thought the same thing about him too, why, that made him grow all the bigger. Thus, for instance, if a giant seriously got it into his head that he was a fine, burly, upstanding fellow and swaggered about curling his moustache and expanding his chest and puffing out his cheeks and shivering his timbers, that was quite sufficient, of itself, to increase his size, just as if he had been going through a course of Sandow's exercises. After all there is nothing to wonder at in this. If you come to think of it, it is very much the same thing with ordinary men.

As giants used to grow big according to circumstances, so, in the same way, they used to diminish in size according to circumstances, too. If something happened to a giant which made him feel small, he would begin to shrink at once; and if, in addition, the other giants lost their respect for him, this shrinkage might set in at an alarming pace. Generally the shrinkage was gradual and persistent, and the unfortunate patient faded away by degrees until he became so small that I don't believe that you could have found him, even with the assistance of a microscope. Certainly a great many big giants had faded completely away from the face of the earth long before the commencement of this story; at least that is the only way in which I can account for their disappearance.

If you discussed the matter with them you would find that all the big giants had a horror of shrinking some day or other, because they had an impression that the experience must be a very painful one. But if, on the other hand, you mentioned the subject to any of the small giants who had once been big, some of them would tell you that it was not half so bad as one would expect, like having a tooth out at the dentist's, and others would say that it was positively quite a pleasant sensation; all would agree that they were every bit as happy now, when small, as they had ever been when they were big, because, if you are small and weak, you haven't got to worry about things or bant or do Dr. Muller's exercises for fifteen minutes every morning before breakfast to keep up your strength.

But none of the big giants really believed this. The fact is that there was a story, which every giant knew, about an ancient big giant who came to a very sudden and untimely end. This giant was web-footed like Sir Front de Boeuf. He had a long-standing quarrel with a certain big land giant. One day they met in the middle of a pond which, up till then, the web-footed giant had always considered to be exclusively and peculiarly his own. I am sorry to say that a violent altercation ensued, which resulted in the web-footed giant being ducked and more or less half drowned, so that he had to cry '*Pax*' and promise never to go into the pond again. The worst of it was that the land giant was really not a bit good

at swimming and the web-footed one was so ashamed of having been ducked by a mere landsman that he began to shrink very rapidly. In fact he only managed to get home just in time to say good-bye to his sorrowing family and then faded away to nothing at all, to the accompaniment of the most horrible groans and lamentations that you ever heard. It was a very painful incident; I am sure that we ought all to be sorry for this poor, ancient, web-footed giant and learn a lesson from his sad fate.

So you see that, although this happened ages and ages ago, the big giants had good reason for deciding that it would be just as well to put off shrinking up to the last possible moment. To effect this object they always kept themselves in the most perfect training by doing dumb-bells and Indian clubs and Sandow exercises so that they had very little time for amusements. In fact, their lives became so strenuous that they were a burden not only to themselves but also, it was said, to their neighbours as well.

The only exception was Sir Front de Boeuf. This was most extraordinary because he had the awful example of the ancient giant—web-footed like himself, mind you—before him, if he had only chosen to regard it; besides, if he had taken the trouble to enquire, he would have found that, according to the very latest statistics, web-footed giants as a class do not, on the average, remain full-sized nearly so long as the other kind of giants, and that, with them, shrinkage, when it does set in, is far more rapid. But, as I have told you already, Sir Front de Boeuf hated putting himself out and making himself uncomfortable. "After all," he used to say, "there is reason in all things and a limit to muscular exercises. I decline to turn myself into an acrobat or a mountebank. An occasional swim ought to keep me quite fit enough, any way."

But he only spoke in this way after he had grown full-sized and blasé and contented. When he was young, he wasn't a bit like this; if he had been, I am sure that he would never have grown up at all.

But grow up he certainly did, and now I am going to tell you how this came about.

II.

How Sir Front de Boeuf Came To Grow Up.

The estate which Sir Front de Boeuf inherited from his ancestors was not much to boast about. To begin with it was small, but that was not so very extraordinary; no young giant ever inherited a really large estate.

In addition to being small, however, there were other drawbacks to it. The climate, for instance, was vile. I can describe it by no other word. It was generally raining or foggy or blowing great gusts from the nor'-nor'-east, and if it happened to be fine to-day that only made it all the more probable that it would pour cats and dogs tomorrow morning after breakfast just when you wanted to go out. The consequence was that the ground was always damp and sodden and marshy and there were pools and puddles all over the place. But besides being all *over* the estate there was water all *round* it as well. If you ever wanted to go somewhere else, you would have to swim for it, and, contrariwise, you would have to swim for it too, if you wanted to come into the estate from outside.

You may, perhaps, think, that, except Sir Front de Boeuf himself, surely no one in his senses would ever wish to do *that*, but as a matter of fact, there were several occasions on which other giants expressed an undoubted desire to come and visit Sir Front in his own home. But he always thought the same as you, and whenever he heard of it he merely concluded that the other giants must be joking and did not treat the matter very seriously.

You see, Sir Front de Boeuf could not understand why any giant who had a nice, warm, dry property of his own should ever wish to come and stay, for however short a time, on his damp, clammy estate. Personally, his one desire was to get away from it on any excuse. What he longed for was some beautiful, bright place where he could go and bask in the sun; and at quite an early age he contracted the habit of wandering continually away from home in search of it. As he was always

going away from home and could never do so without swimming, he gradually become quite a good swimmer and was soon almost as much at his ease in the water as he was on dry land.

So I expect you are beginning to understand how it was that, as I told you at the beginning, Sir Front de Boeuf had webbed feet like a duck.

Just before the commencement of this story, that is to say, when he was still quite young, Sir Front got married to the Lady Have-at-'em—a bustling, energetic, cheerful young person. Most of the other giants were married men, so Sir Front was not peculiar in this respect. Where he did differ from all the other giants, however, was in the fact that he had a granny; at least I never heard of any other giant who had one quite like Sir Front's. Her name was Madame Laissez Faire and she was very, very old. Exactly how old she was no one knew, nor could anyone tell you the exact time when she first came to stay in Sir Front's castle. To him she seemed to have been there always, at least he could never recollect a time when she *wasn't* there.

I am sorry to say that she and Lady Have-at-'em did not get on at all well together. Somehow there did not seem to be a single subject on which they could agree; and they did not mind arguing and contradicting each other all day long. This was a pity, because it led to quarrels and everyone knows that it must be bad for any giant to have serious domestic wrangling in his household. Still, this state of affairs was, nevertheless, not without its advantages. At least Sir Front de Boeuf found it convenient, because, if he did not like what one party recommended, he could always appeal for advice to the other party. As it was certain to be exactly the opposite, he would have two clear alternatives laid before him and it was quite easy for him to choose which was the least troublesome and uncomfortable one for him to adopt. I must say, however, that, like some other young people that I could mention, Sir Front, at this time, did not pay much attention to what his old granny said and generally followed Lady Have-at-'em's advice.

For instance, he did not make the slightest attempt to overcome his bad habit of wandering away from home, in spite of the fact that his granny highly disapproved of it and told him so. She said that it was very wrong of him to go away like this, neglecting his domestic duties and getting mixed up in the affairs of other giants. What distressed her more than anything else was that nobody could possibly tell what he was doing when he was away, although she'd be bound that he was up to no good. It must all end, she thought, in his getting a bad chill or his death of a cold, even if nothing worse happened, which was quite probable.

Lady Have-at-'em, on the other hand, positively encouraged him. She said that a young giant was a young giant and that it was a good thing for him to travel and see the world. So she made no difficulty about his going away and always had his kettle on the fire and his bed-room slippers warming in the fender, ready to welcome him when he came back. And then she loved to sit and listen to all his adventures. When anything unfortunate occurred, she used to laugh and exclaim, "Never mind ; better luck next time !" and when she thought that he had done anything that was splendid or successful—well, the things she used to say *then* made him feel so pleased and proud, that I can't help thinking that they must have made him grow bigger by an inch or two on the spot.

In his excursions, Sir Front de Boeuf sometimes saw another web-footed giant. He was very big and ferocious-looking, with black hair and a short, black, pointed beard, and his name was Sir Kal Karunga ; at least that was the name that he was known by afterwards. He was very much bigger than Sir Front and looked so imposing and magnificent and terrible as he came swimming along, that, for a long time, Sir Front did not even venture to say "good morning" to him. As a matter of fact, on seeing him, Sir Front generally thought it was wisest to swim off in another direction.

One day Sir Front went for a longer swim than usual and came to a beautiful island. Here the sun was shining and the birds were singing in the trees and there was a nice patch of

warm, dry, golden sand on the beach. So Sir Front walked up on to the sand and lay down on it full-length and really basked in the sun for the first time in his life. It was the first occasion, too, on which he came across a currency note. He saw it lying half hidden under a bush as if some one had put it there and forgotten to take it away. As it looked good to eat, he got up and tasted it and liked it so much that he had soon eaten it up completely. He had scarcely swallowed the last morsel and was beginning to look round for some more, when who should come swimming round the corner but Sir Kal Karunga?

Sir Kal Karunga was very angry when he caught sight of Sir Front de Boeuf and shook his fist at him and shouted out that that island and, indeed, all other islands belonged to him and if he found trespassers on his property he would—But Sir Front did not wait to hear what he would do. He was so startled that he dived into the water again and made off as hard as he could. Sir Kal Karunga swam after him as hard as *he* could, too, but Sir Front was much too fast a swimmer to be caught so easily. Sir Kal Karunga had always been accustomed to do things in a pompous, deliberate, dignified sort of way, and he soon got so tired and out of breath that he had to give up the pursuit.

"All right, Sir Front de Boeuf," he cried, "I haven't time to catch you now. I've got other things to do than chase nasty, dirty, little giants, but just you wait till I *do* catch you."

"Just what I don't mean to let you do, old man!" said Sir Front rather impertinently; "besides I'm sure that you have forgotten to bring any salt with you. You'll want some, you know, if you mean to catch me."

I quite agree with you that Sir Front's behaviour was anything but what it should have been, and that he spoke to Sir Kal Karunga as no young giant, who has been properly brought up, ought to speak. But you must remember that it was a great relief to him to find that Sir Kal Karunga was really rather a helpless old giant and that there was nothing to fear from him, in spite of his great size, so long as one kept one's eyes open and looked slippy. Besides there is no doubt about it that giants

were not well brought up in those days, so we must make due allowances for Sir Front's bad manners.

His granny, Madame Laissez Faire, was, of course, scandalized when she heard all about it in the evening, but his wife was delighted. She was especially interested to hear about the currency note, and thought that if enough could be collected they might make a very nice dish served up for dinner. So she begged Sir Front de Boeuf the next time that he found any to bring some back with him.

Accordingly, for days, he went out and searched Sir Kal Karunga's islands, but at first without much success. Occasionally he found one or two lying about, but he incontinently ate them up as not being enough to make it worth while to bring them home. He often met Sir Kal Karunga, but he was not in the least frightened. He just kept out of his reach and swam round him in rings and jeered at him and asked him how he was feeling today, and whether he had brought any salt with him *this* time.

At last, one day, as he was passing one of the islands, Sir Front noticed a lot of bundles, all neatly tied up in oil-skin on the beach. When he examined them he found that they contained currency notes. Delighted at his find, Sir Front tied several of them round his waist, slipped into the water and—promptly came face to face with Sir Kal Karunga, who seemed to be burdened with a similar cargo. Sir Kal Karunga was inarticulate with rage, but Sir Front de Boeuf only laughed and swam gaily homeward.

That night they had a great feed in Sir Front's castle. Of course Madame Laissez Faire was horrified at Sir Front's conduct and protested that he was little, if at all, better than a common thief or highway robber, but even *she* had to confess that currency notes made a very appetising and wholesome dish, though she thought that they would probably taste all the better for being honestly come by. As a matter of fact it is from this time that we must date the commencement of the insatiable craving for this kind of food, which, I am told, has continued to increase in Sir Front's household ever since.

As it was evident that Sir Kal Karunga made a habit of collecting currency notes, Sir Front thought that it would save a lot of trouble if he went to search for them quite close to Sir Kal Karunga's own castle. It is quite true that, till then, it had been an understood thing between these two giants that it was not quite fair to visit each others actual castles—except, of course, as invited guests. But Sir Front's appetite had increased so enormously lately that he didn't care.

So one fine morning he suddenly appeared in the water just outside Sir Kal Karunga's castle and looked about him. He could discover no bundles, but, on the beach quite close to the castle walls, he *did* see no less a person than Sir Kal Karunga himself. He was lying on his back beside a smouldering fire and an empty cooking pot, and he was asleep and snoring with his hands contently clasped over his stomach.

And what do you suppose that Sir Front did? He slipped out of the water, picked one of the burning sticks from the fire and—singd the beard of Sir Kal Karunga! Then he dashed back into the water.

Poor Sir Kal Karunga! You can imagine his feelings at being insulted like this under the very windows of his own castle. He leaped to his feet, made a wild grab at Sir Front and missed him. Then, when he saw that he had reached the water where he knew it was perfectly useless to follow him, he stamped and raved up and down the beach using, really, the most dreadful language.

"All right, my young friend," he cried, rubbing his chin and shaking his fist at Sir Front, "this is going a little too far. I'll "come round to your castle tomorrow and I'll beat you to within "an inch of your life. See if I don't."

Sir Front de Boeuf was not very much alarmed. As I told you before, he never believed that any giant would (or could) ever come into his castle. Besides, everyone knew that Sir Kal Karunga never did anything *today*, and when he said that he would do something *tomorrow*, in all probability he would not do it till this day fortnight at least, if indeed he ever did it at all.

As a matter of fact nothing happened for a whole month afterwards.

Lady Have-at-'em happened to be in the rose garden cutting flowers, and Madame Laissez Faire was dozing in a chair on the edge of the lawn, while Sir Front de Boeuf was having a game of bowls. Suddenly Lady Have-at-'em came running on to the bowling green saying that there was a giant swimming towards the castle.

"What's he like to look at?" asked Sir Front, continuing his game. "Has he black hair and a black beard?"

"Yes," said Lady Have-at-'em.

"I really believe it must be my friend Sir Kal Karunga," said Sir Front, "I wonder what he wants."

"There!" cried Madame Laissez Faire, wringing her hands, "I told you so. He's come to beat you, as he said he would. Serves you right for your nasty, low, thieving ways. Oh, dear! Oh, dear! I knew what would come of it all. However, don't look to *me* for assistance," she added resignedly, "for I won't lift a finger to help you."

But Sir Front, by this time, was walking unconcernedly across the green. When he reached the edge of the water he stopped and looked. There could be no doubt about its being Sir Kal Karunga: there he was, swimming straight for Sir Front's castle, looking very solemn and very determined and very angry and—rather blown.

"Impudence," muttered Sir Front. "I like his confounded impudence! To come to *my* castle! I'll teach him."

It generally took a great deal to make Sir Front angry. Some people said that it might have been better for Sir Front and his friends if he had been able to get angry more quickly and oftener. But he did get really angry this time, and the more he muttered to himself, the angrier he became. So he stripped off his clothes, dived into the water and in two minutes was swimming round Sir Kal Karunga in his usual way. But on this occasion he did more than that. He began to duck Sir Kal Karunga by pulling him down by a foot or by jumping between his shoulders and bobbing his head under water, always being very careful to keep out of reach of his big, strong hands. The result was that Sir Kal Karunga gradually got completely exhausted.

"Hi!" he managed to gasp out at last, "stop it, will you?"

"I won't," answered Sir Front.

"Do," said Sir Kal Karunga.

"I won't," repeated Sir Front.

"Let's finish this game tomorrow," suggested Sir Kal Karunga.

"I propose to finish it now," said Sir Front, ducking him again.

"Look here!" said Kal Karunga, "I've had enough of this; I give in."

"Oh! really," said Sir Front, "and if I let you go, will you ever come near my castle again?"

"Never," said he.

"Will you ever make any objections about my picking up currency notes wherever I choose?"

"No," said he.

"And what about those islands that you said the other day belonged to you?"

"Those islands? Oh! I never meant to say that. They're really yours, Sir Front, of course," said he.

"Well, in that case," said Sir Front, "there's nothing more to be said. Come on and I'll see you home."

And he did.

So, you see, Sir Kal Karunga had to cry "*Capevi*," just like one of Mr. Jorrock's foxes, and from that day to this he has been shrinking, till now he is really quite a small giant and never goes near the water and has no webs between his toes and has quite lost all his taste for such things as currency notes.

Sir Front de Boeuf, on the other hand, when he began to dress for breakfast the next morning, found that he had grown so much during the night that his trousers had become much too tight for him, his shoes pinched and he had such difficulty in buttoning his collar that he burst his braces in his efforts and had to tie a handkerchief round his waist—always rather an unsatisfactory arrangement—till Lady Have-at-'em found time to mend them for him.

Madame Laissez Faire was very depressed about it all. To begin with, she was very sorry for poor Sir Kal Karunga, who,

As Told to the Children.

she thought, was a very well-meaning person and had been very badly treated. Then, she did not like having a grandson who had manifestly grown too big for his boots and would, she was sure, only go on from bad to worse. Besides, as he couldn't possibly meet his friends in clothes like *that*, there was the expense of getting a complete new outfit to be considered, and she always hated the idea of any extra expenditure.

Lady Have-at-e'm was, naturally, of precisely the contrary opinion.

"James," said she to her husband, "I think you're simply "splendid;" and he was inclined to agree with her.

And that is how Sir Front de Boeuf came to grow up.

(To be continued.)

The Situations on the Peshawar and Kohat Borders in 1897.

BY LIEUT.-COLONEL A. M. S. ELSMIE,
56th Punjabi Rifles (F. F.)

"The susceptibility of this class of enemy to moral influence is a most important factor in the campaign. Hesitation, delay or any retrograde movement will at once be interpreted as signs of weakness, and while the braver of the enemy will be encouraged, the waverers always to be found amongst undisciplined forces will be tempted to throw in their lot with what appears to be the winning side. A vigorous offensive, strategical as well as tactical, is always the safest method of conducting operations."

F. S. R. I. 141.

"It is always better to act offensively, even if we are inferior in numbers. The enemy is often bewildered by boldness and allows advantages to be snatched from him."

Letter from Frederick the Great to Louis xv.

INTRODUCTION.

A study of the situations on the Peshawar and Kohat borders in 1897 reveals some important lessons, both tactical and moral, which should be engrained in the mind of every soldier. The situations in themselves were not important ones, but in as much as they furnish good examples of the benefits to be derived from following certain important and immutable principles common to all war, as well as of some of the misfortunes that may be endured if these same principles are not allowed, their study may help us to discern some of the fundamental truths that underlie the art of all war. A point of additional interest lies in the fact that 17 years after the events, the frontier of the Indian Empire remains exactly the same as it was then, and very little altered from what it was in the time of the great Sikh protagonists who held the frontier before the advent of the British Raj. It may well happen therefore that we shall find ourselves con-

fronted with very similar conditions and a similar problem in the future. The two situations are being considered together because they form an useful contrast both from the dissimilarity of some of the tactical conditions involved, and also from the dissimilarity of the methods by which the two problems were handled.

First it is necessary to emphasise the fact that these can only be regarded as paper problems. Such facts as can be gathered have been extracted from the official text-books and elsewhere. These will be narrated in as brief a form as possible, sufficient details only being given to enable the circumstances of each case to be recalled. But it must be recollected that there is little chance of ascertaining all the factors which affected the decision of the authorities concerned. For instance none but very few can tell how far the action of the men on the spot may have been hampered and fettered by the instructions and orders which it may have been found necessary to pour in over the telegraph from the headquarters of the Government of India. Mistakes may be detected, and our judgement may be correct, but fortunately it is impossible to apportion the blame. It is always quite possible that any solution which may be suggested would neither have been feasible nor correct at the time. All that we can do—and are justified in doing—is to consider recognised tactical principles and their application to the historical examples which we happen to be reviewing.

Regarding the problems in this light we must first obtain a clear insight into the situations, both in relation to the dispositions of the forces engaged and the dangers that were threatening, then consider the action taken, and finally deduce any action which in our opinion would have been sounder and more in accordance with tactical principles, always bearing in mind that, through causes unknown to us, its adoption may have been impossible at the time.

SITUATION ON THE PESHAWAR BORDER.

It will be recollected that the frontier conflagration of 1897 commenced early in the hot weather, when the Political Officer's escort was treacherously attacked at Maizar in the Tochi valley on the 10th June. Next came the sudden and quite unexpected attack on the Malakand on the 26th July.

The attitude of the Afridis and Orakzais was still uncertain, but on the 4th August the Deputy Commissioner Kohat, wired to Peshawar that Mullah Said Akbar, the chief mullah in Tirah, had prevailed on the Orakzais to unite against government and that he was endeavouring to induce the Afridis to rise also. This report was discredited by the Commissioner of Peshawar. On the 7th August the Hadda Mullah carried the firebrand of 'Jehad' right into British territory by leading the Mohmands across the Peshawar border and attacking Shabkadr Fort (Sketch I). The garrison of Shabkadr Fort at the time consisted of one native officer and 46 men of the Border Military Police and 13 men of the Peshawar district police, all armed with Snider rifles. The mullah stimulated the ardour and enthusiasm of his adherents by ordering them to loot and burn the undefended Hindu village of Shankargarh, which is situated close to the Shabkadr fort.

Immediately news of this raid reached Peshawar on the evening of the 7th, preparations were made to send out a column to the relief of Shabkadr fort. The relieving column, consisting of 2 squadrons 13th Bengal Lancers, 4 guns 51st Field Battery and the 20th Punjab Infantry, marched from Peshawar soon after midnight of the 7-8th August. The distance to Shabkadr is $18\frac{3}{4}$ miles, but the Kabul river has to be crossed and being in flood at this time of year presents a formidable obstacle. There was no bridge and very few boats, so that great difficulty was experienced in negotiating the crossing. The whole of the column was not concentrated at Shabkadr until late in the evening. The strength of the column cannot have exceeded 600 rifles and sabres, as the official accounts give the marching out strength of the 20th Punjab Infantry as 400 rifles. The enemy's strength was estimated at 5000—6000 men. Colonel Woon* in command decided to attack on the morning of the 9th. He found the enemy posted at the foot of the hills, with their right resting on the low hills and their left extended across an undulating plateau. As may well be imagined from the disparity in numbers of the forces engaged, the fight was by no means a walk over. In fact the enemy soon began to work along the low hills

*Now Lieutenant-General Sir J. B. Woon, K.C.B.

round the left of Woon's small force and was threatening to cut it off from Shabkadr. Orders for a gradual retirement on the fort had actually been issued, when the General Officer Commanding Peshawar appeared on the scene and assumed command. He ordered the cavalry to charge the enemy's left. The two squadrons, 13th Bengal Lancers, made a brilliant charge and relieved the pressure which was becoming rather serious. The enemy fled in disorder and lost heavily. The infantry followed them up a short way. The casualties on the British side were 9 killed and 65 wounded, *i.e.*, a little over 10 per cent.

After this fight, orders were given for reinforcing the column at Shabkadr, and by the 12th August there were collected on the Mohmand border 1 field battery, 3 squadrons cavalry, 1 British infantry battalion and 2½ Indian infantry battalions with a company of Sappers and Miners bridging the Kabul river.

On the 15th August the Political Officer Kohat wired to Peshawar that an Afridi *lashkar* had been collected and was preparing to attack Jamrud and that Orakzais were only waiting for the Afridis to commit themselves before they took any decisive action. Again the report was discredited at Peshawar and as late as the 17th August, a wire was sent by the civil authorities at Peshawar to Simla, stating that reports from reliable sources showed that up to date there was no serious or general movement either among the Orakzais or Afridis. But at 7-30 p. m. on that very day Malik Amin Khan, a leading Kuki Khel malik, came in with Colonel Aslam Khan the officiating political officer of the Khaibar with the information that an Afridi *lashkar* said to be 10,000 strong and accompanied by 1500 mullahs from Ningrahar had left Bagh on the morning of the 16th, was to reach the Bazar valley on that very day the 17th, and attack the Khaibar forts from Landi Kotal downwards on the next morning the 18th. The distance from Bagh to Ali Masjid in the centre of the Khaibar is 46 miles, so that this rate of advance was possible, though improbable, when one takes into consideration the difficulties which are encountered in the collection of unorganised armies. Reinforcements have to be constantly summoned and drawn in as the *lashkar* advances through the country.

The fat was now nicely in the fire. If action was to be taken there was not a moment to lose, and even now it might be too late, for the Khaibar posts might be attacked the next day. The Commissioner, the General Officer Commanding and Colonel Aslam Khan held one of those fatal things, a council of war, which lasted far into the night in order to decide on a course of action. "Councils of war never fight," and on this occasion the result of their deliberations was, that a decision was made not to meet the Afridis in the Khaibar, a place which had proved so formidable in the past to several armies both in ancient and modern times. The Khaibar was not to be held by regular troops and the only British officer in the Khaibar was to be recalled. It was considered that if there were no British officer in the Khaibar forts, the Afridis would have less incentive to attack them, as they were garrisoned mainly by their own clansmen. It was also feared that if a British officer were left in the Khaibar, it might prove necessary to send to his relief a column, before it had been adequately equipped and organized. The only attempt to hold the Khaibar was made by an effort to impress on the maliks the responsibility of the tribes, if they destroyed them. The Kuki Khel maliks were sent off to strengthen the garrisons at Ali Masjid and Fort Maude. Zakka Khel maliks living in the Khaibar were sent up to reinforce Landi Kotal. The official account points out that "this was merely asking them to fulfil their obligations under the Khaibar pass agreement for which they had been highly paid during a long course of years." But these were half-hearted measures, and like all other half-hearted measures had little chance of success.

Now what was the actual situation in the Peshawar area on the night of the 17—18th August, when the momentous decision had to be made. First let us try and conjure up the dangers that threatened and the problem that the officer in command had to solve. To the north-east on the Malakand side, the Malakand field force was taking the offensive against the Swatis and Buners. One brigade was operating in the Upper Swat valley, a second brigade was in the Lower Swat valley. A

reserve brigade was moving up so that there need be no anxiety on that side.

To the north the Mohmands had been driven back across the border, but it was feared that the Hadda Mullah would induce them to renew the attack at any time. Still it might have been calculated that the presence of the Malakand Field Force on their flank would have a sobering effect on them.

Further to the west, the Khaibar was immediately threatened by the Afridis. Since the fight at Shabkadr on the 9th August Captain Barton, the British officer in command, had taken active measures to prepare the defences in the Khaibar. At Landi Kotal the garrison had been increased to 354 rifles, reserve ammunition had been increased to 50,000 rounds, drinking water had been stored for a thousand men for a considerable period, rations and firewood for a month for 400 men had also been accumulated. Half the garrison of Landi Kotal at this time consisted of Loargai Shinwaris and Shilmanis who have never loved the Afridis and generally been good friends of the British. On the 17th Barton had written asking the Commissioner for a small reinforcement of regular troops, but his letter crossed the Commissioner's letter of recall.

On the south and south-east of the Peshawar district the attitude of the Kohat Pass Afridis and Jowakis was considered doubtful. Aimal Chabutra post was therefore in danger, and what was far worse still, Cherat also with its summer population of British women and children.

Peshawar city itself was in a state of unrest, and to add to other difficulties transport in the district was very scarce. A great deal of the transport had to be employed in bringing back British families from Cherat to a place of greater security in Peshawar.

Table 1 shows the garrison that there was at the time in Peshawar and Shabkadr. On the night of the 17—18th we may take it that the General Officer Commanding was aware of the reinforcements due to arrive on the 18th and also of the formation of 2 reserve brigades at Rawalpindi, for whose mobilisation and concentration, orders had been issued on the 14th August

Naturally he could not count on obtaining assistance from these brigades, as Rawalpindi formed the reserve for the whole frontier, and these brigades might be required more urgently elsewhere. Still if drastic action was taken, a request for early reinforcement could always be made.

August 18th.—Having decided to leave the Khaibar pass and its garrisons to look after themselves, the Officer Commanding ordered certain moves for the morning of the 18th. The distribution of forces on the evening of the 18th is given in Table I. A noticeable feature is the composition of the moveable column at Jamrud, which contained a horse artillery battery and a regiment of British cavalry, but this is explained by the orders for the moveable column, which were to prevent the Afridi *lashkar* advancing into the plains.

Throughout the 18th there were no signs of the Afridis, but reports were received that the Afridis were contemplating attacks on Bara, Jula Talao and Matanni rather than on the Khaibar; one of the countless false rumours that assail every commander in war. There were no more signs of the Mohmands, but a cavalry reconnaissance sent up the Alikandi route into Mohmand territory was fired upon. In Swat the Upper Swatis and Bunerwals were defeated at Landakai. All was quiet in the Lower Swat valley. Peshawar valley all quiet.

In consequence of the rumours about the Afridis a second moveable column was formed at Peshawar with orders to hold itself in readiness to proceed to Bara fort.

August 19th.—The next day news was received that the reports regarding Afridi movements were much exaggerated. Another false report.

August 20th.—The 20th was one of the fixed days for the passage of Afghan caravans up and down the Khaibar. They proceeded as usual without hindrance. Captain Barton and three other officers accompanied the caravan as far as Ali Masjid. On this day it was stated in a telegram from the civil authorities to Simla "The information brought in by Amin Khan, Kuki Khel, on the evening of 17th is now absolutely discredited and affords a good example of the difficulties with which we have to contend

in false news, from what are apparently the most reliable sources." Let us hope that Amin Khan was not rebuked at the time for bringing in false news !

August 21st.—The next day was a somewhat disturbing day. First came in news that the Mohmands would make a fresh attack on Shabkadr and Michni on the 23rd. Then reports came in that the Afridis had left Tirah after all and would reach Bazar valley early that day. Their intention was given out as being to attack the Khaibar if held by British troops, otherwise to advance on Jamrud and Bara. The intelligence section of the Afridi General Staff must really be congratulated upon their skill in disseminating misleading reports, but the selection of the more difficult objective for the first attack is so foreign to the natural characteristics of the Afridis or other hill tribesmen that the rumour might at least have been regarded with suspicion.

The second moveable column was at once despatched to Bara, and Jamrud was further reinforced. For distribution of troops on evening of the 21st, see Table I,

In the official account it is explained that the whole column at Jamrud was not considered to be available for operations in the Khaibar. In the first place it was decided that a whole battalion of regulars in addition to the Khaibar Rifles must be left to guard Jamrud, as the Afridis might avoid the Khaibar and make a night attack on Jamrud. The cavalry and horse artillery were reported to be useless for work in the Khaibar hills. This seems sound enough, but the thought will arise. Why had they been sent? transport was scarce. Supply outside of Peshawar was a difficulty. Would these units not have been better at Peshawar itself, from which place their powers of mobility would have taken them to Jamrud, Bara &c. in an hour or two? Deducting these units it was reckoned that only 2 battalions of infantry, and 1 mountain battery were left for operations in the pass itself. So it was again decided that even if attacked the Khaibar must be left to its own resources.

August 23rd.—On the 23rd August the Afridis arrived at last. They had first been expected 5 days before on the 18th August. They did not look at Bara fort or dare to issue from the hills, but

amused themselves on the 23rd, 24th, 25th August by destroying all the forts in the Khaibar. They were wise in their generation for there were sufficient cavalry and artillery in the Peshawar valley to give them a warm reception, had they ventured into the plain and allowed themselves to be cut off from the fringe of sheltering hills. Having destroyed the forts at their leisure they turned about and hastened to the assistance of the Orakzais in the hope of repeating their successes against the Samana forts, and now for the first time they were well provided with captured ammunition. The successes in the Khaibar must also have whetted their ardour and stimulated the enthusiasm of such men as had previously flocked with misgivings and reluctance to the standards of rebellion raised with such temerity against that formidable foe and indefinable quantity, the British Raj.

Such is the brief history of events. The question now arises. Were the moves carried out in accordance with tactical principles? It must be agreed that lack of transport and time for preparation rendered a strategical offensive an impossibility for the time being. But because a force is unable to assume the strategical offensive, it does not at all follow that it cannot assume the tactical defensive. The force in the Peshawar valley was thrown on the defensive, and as F. S. R. I para 100,2 puts it:—"The defensive implies loss of initiative for the time being." In the training manuals there are not many guiding principles to be found for action on the defensive in a case of this sort, but in para 108 F. S. R. I, which deals with civilised war, we find:—"The first requisite is information. The air service and the cavalry must discover the direction of march and the strength of the hostile columns, and until the former is known the force should not be deployed, even when the enemy's line of advance may be foreseen. A force which is kept in hand covered by the necessary protective troops is able to assume the offensive at once if a turn in the tide of events makes this advisable."

The principles of the defensive therefore seem to be:—Make every effort to obtain information. Keep your force concentrated at the most central point or points. Cover it with a screen. Do not deploy until sure of the enemy's moves.

Avoid detachments, *i.e.*, do not fritter your force away by answering every call for help. In the defensive much seems to depend on the strength of mind of the commander in resisting the appeals for help that will certainly assail him from all directions and on his powers of penetration in detecting the threatened spot. Having lost the initiative, his difficulty is to discern the quarter from which the immediate and most serious danger is imminent. Some risks must be taken, the point is to take the minor and not the major risks. A commander may be quite certain that in a case of this sort, and in fact in all war, many more false than true reports will be received. If action is taken on every report there is a good chance not only of losing one place, but of losing every place after defeat in detail.

The only wise course appears to be to form a sound tactical scheme in one's head and to stick to it undismayed through thick and thin, always watching for an opportunity, for converting the passive defensive into a tactical offensive.

In this case the outlying points of the area to be watched were Shabkadr, Landi Kotal, Aimal Chabutra and Cherat. As far as the turbulent elements in the Peshawar city were concerned, it may be taken for granted that a battery of horse artillery and a regiment of cavalry would have brought them to their marrow bones in a very short space of time.

On the 18th the central points of the area were Peshawar and Jamrud. Jamrud was most important, for it not only acted as an outpost to Peshawar on the most threatened side, but from it, it was possible to watch the Khaibar, *i.e.*, it was within striking distance of Landi Kotal and it was also possible to take in flank any Afridi force advancing into the plains in the direction of the Bara fort and water supply. At Jamrud mounted troops were wasted, for they were useless for work in the Khaibar, and they could operate equally well against an Afridi force advancing into the plains, if located at Peshawar, where they were more centrally situated for covering other points of the threatened area.

The question then arises, whether the forces at Shabkadr should have been reduced, in order to admit of concentration at a central point immediately information was received that the

Afridis also had risen. After this lapse of time it is impossible to conceive that there was any grave or immediate danger on the Shabkadr side, or that the prevention of an incursion of the Mohmands in that direction was comparable in importance with the retention of the Khaibar and the defeat of the Afridis. The Mohmands had received one knock and the operations of the Malakand Field Force on their flank were bound to distract their attention. The people along the border are Tarakzais, a section of Mohmands, so they were in no great danger. The Shabkadr fort, when garrisoned by a few Border Military Police, had held out before until relieved from Peshawar. Presumably it could have done the same again, if stiffened by the assistance of a couple of companies of regulars. No doubt supplies were being collected here for the coming Mohmand expedition, but their value can only have been a fraction of the value of government property in the Khaibar. Even if the Mohmands had advanced and destroyed the bridge which the Sappers and Miners had just built at Hajizai, the loss would have been of little consequence. Its destruction would have been a greater disadvantage to the tribesmen than to the defenders, for their advance into the Peshawar plain would have been seriously impeded.

At Shabkadr therefore there seemed to be little danger, as long as no small force was hung out to dry outside the fort.

Suppose then that on the night of the 17-18th it had been decided to concentrate the forces in the Peshawar area at the central points of Jamrud and Peshawar and await developments. What forces could have been collected at these two places? A possible distribution is given in Table I. In the official account mention is made of the fact that the Jamrud column had obligatory transport, so presumably the Shabkadr column was similarly equipped. By the evening of the 19th at latest we find that a force of 3 British infantry battalions, 4 Indian infantry battalions, 1 battery field artillery, 1 mountain battery and 1 squadron cavalry might have been concentrated at Jamrud, while for Peshawar itself there would have been available a strong mobile force of mounted troops, consisting of 1½ regiments of British

The Peshawar and Kohat Borders in 1897.

cavalry, $1\frac{7}{8}$ regiments of Indian cavalry, 2 batteries of horse artillery and 1 field battery. There would still have been left for the defence of Peshawar itself a garrison of 2 companies British infantry and $1\frac{1}{8}$ battalions Indian infantry, in case the moveable column was called out. With this distribution of troops the supply question would have been simplified, and the force outside of Peshawar is rather less than the total strength of the detachments which were actually at Shabkadr, Bara and Jamrud when the Afridis attacked the Khaibar,

Had the forces been thus distributed by the evening of the 19th a brigade from this force might possibly have been moved up to Ali Masjid on the 20th or 21st.

On tactical grounds therefore it appears difficult to rest content with the decision to adopt the passive defensive in the Peshawar valley and to abandon the Khaibar without a struggle. The loss of 50,000 rounds reserve ammunition, plus the other ammunition was most serious.

The whole question hinges firstly on the possibility or impossibility of reducing the force watching the Mohmand border, secondly on concentration at a central point, thirdly on making the Jamrud moveable column a dismounted one which would be suited to work in the hills and the Peshawar column a mounted one.

SITUATION ON THE KOHAT BORDER.

During the occurrence of these events on the Peshawar border a somewhat similar situation was being faced along the Kohat-Kurram border on the other side of Afridi and Orakzai country. Brigadier General Yeatman Biggs C.B., who died from sickness just before the end of the Tirah expedition, was in command. The official account gives the orders that were issued to him from Army Headquarters though it is not stated whether any orders were issued to the General Officer Commanding Peshawar.

On the Kohat side the carrying out of the orders received was entirely successful, and it is contended that the action taken was in accordance with tactical principles and well worth study.

As noticed previously, the Deputy Commissioner Kohat telegraphed on the 4th August to Peshawar that there was a chance of the Afridis and Orakzais rising.

On the 15th August a second wire was sent, in which it was stated that the Orakzais were waiting for the Afridis, who were collecting to attack Jamrud, before they committed themselves. On this day the first act of hostility was perpetrated, a few shots being fired at Fort Lockhart. The troops in the district at the time are given in Table II and were all too few for the protection of the long line of frontier from Khushalgarh to Parachinar (Sketch II). There was therefore much anxiety felt for the safety of the numerous isolated detachments, spread out along this line.

As soon as the first reinforcements consisting of one battery of field artillery and one regiment of Indian cavalry had reached Kohat, a flying column consisting of $1\frac{1}{2}$ regiments of cavalry, 4 guns of the mountain battery, one battalion of Indian infantry was sent off to Hangu, leaving only 1 battalion of infantry and the battery of field artillery, and a few depots in Kohat as garrison.

The General Officer Commanding received the following orders from Army Headquarters.

- (a) Fill up Samana forts with ammunition and supplies.
- (b) Relieve Sada and Parachinar.
- (c) Disperse all hostile gatherings along the Kohat-Kurram line but on no account to involve himself in the hills.

A comprehensive programme when it is recollected that rail-head at Khushalgarh, where it then lay, was $147\frac{1}{2}$ miles from Parachinar near the head of the Kurram valley.

On the 25th August the flying column at Hangu filled up the Samana forts with ammunition and supplies. No opposition was met with, but the officer commanding Samana reported that a large Orakzai *lashkar* estimated at 12,000 men was concentrating at Karappa and waiting for all clans to join before an attack was made. Reports were also received that the Daulatzais were collecting at the Ublan pass and preparing to attack Kohat. A cavalry patrol sent out from Kohat confirmed the presence of this gathering.

Meanwhile disquieting news was received daily from the Kurram but the moveable column could not for the present leave Hangu, as long as the Orakzai gathering was immediately threatening the Samana. So minor risks had to be run in the Kurram.

On the 26th August it was reported that the *lashkar* at the Ublan was increasing. At this time there were two posts at Muhammedzai, placed so as to block the entrance to the Ublan pass. One post was held by local police and the other by a small detachment of regular troops from Kohat. The regular post was reinforced for the night of the 26th-27th by one company. The enemy attacked the posts that night at 9 P. M. and captured the police post, the garrison of which was withdrawn to the regular post. The post was burnt and the enemy retired to the hills for the night.

News of this attack reached Kohat in the middle of the night and orders were at once issued to the garrison to move out and disperse the gathering. A force of 6 field guns, 1 squadron cavalry and 667 rifles marched from Kohat at 4 a. m., dispersed the gathering and returned to Kohat the same evening.

On the same day the flying column at Hangu had been busy. At 7 a.m. it was observed that a large *lashkar* was attacking Lakka post which was on the Samana ridge immediately above Hangu and garrisoned by local levies. At 8 a.m. the post signalled for assistance. At 3 p. m. a relieving column of 2 mountain guns, 2 squadrons cavalry, 1½ battalions Indian infantry reached the crest of the Samana ridge after considerable opposition. Lakka post was relieved and the garrison withdrawn. It was then discovered that Saifaldarra, another small post, a mile or two to the west of Lakka, was also hard pressed. Colonel Abbott, in command, at once moved his column westward along the ridge, defeated a *lashkar* covering the siege of Saifaldarra post, then relieved Saifaldarra and fell back on Hangu, taking with him the relieved garrisons of both posts. Hangu was reached at 11 p. m. Lakka and Saifaldarra posts were both burnt by the enemy.

The same evening news was brought in that an attack had been commenced on the night of the 26—27th on Shinawri post.

further westward up the Miranzai valley and also held by levies. The post could not be relieved, so was evacuated by the levies on the 28th and destroyed by the enemy, who then retired to the hills.

Owing to all these attacks the Miranzai valley was generally in a disturbed state. Telegraphic communication was being constantly interrupted. The camp at Hangu was fired into and raids were made against the villages of Nariab and Kal. So notwithstanding the threatening attitude of the tribesmen about the Ublan pass, just overlooking Kohat, the General Officer Commanding pushed on reinforcements which arrived at Kohat on the 27th, the very day of the Ublan affair, to Hangu on the 28th.

By the 30th August as further reinforcements reached Hangu it was found possible to push on a column from Hangu to Doaba to prevent raids and to keep the local inhabitants steady.

The next day the General Officer Commanding moved his headquarters to Hangu, and on arrival there formed two brigades. One of these he despatched at once to Sada for the support of the Kurram valley, where for a long time the situation had been very precarious, though up to date no damage had been done. This brigade was just moved up in the nick of time, executing forced marches which told heavily on the troops in the hot weather. On the 30th August Thal post had been attacked and the Zaimukhts burnt Torawari, a levy post. On the 1st September the Balishkhel post, 3 miles from Sada and held by 20 Kurram Militia under an Afridi havildar, was attacked. A band of Turis marched to its assistance and relieved it at a moment when its fate was hanging in the balance. The arrival of the column at Sada about the 3rd September restored confidence. This force formed an entrenched camp at Sada and was attacked on the evening of the 16th September. The attack continued till 1 a. m., when the enemy was finally driven off.

Meanwhile all the posts on the Samana were being constantly threatened by large gatherings of tribesmen, but the other brigade was kept in hand at Hangu till some definite information was received. Daily excursions were made to cut off raiding

parties and to burn villages at the mouth of the Khanki and elsewhere, but the force itself was not launched.

Finally on the 7th September on the receipt of news that the Afridis were marching to join the Orakzais in an attack on the Samana, the Hangu brigade was moved up to Fort Lockhart. Owing to lack of transport only 3 days rations could be carried. Unfortunately the enemy's *lashkar* did not concentrate at Karappa in the Khanki valley until the morning of the 11th, on which date rations being exhausted arrangements had been made to return to Hangu. A signal message was sent at once to Hangu, distant 16 miles, asking for more rations and the force proceeded to watch the movements of the enemy who marched slowly down the Khanki past the Samana forts. Towards afternoon, as the enemy appeared to be slipping past the Samana forts and moving in the direction of Hangu, the General Officer Commanding commenced a parallel movement along the Samana ridge, a report having been received that the enemy intended to attack the village and camp at Hangu. The advanced guard reached a point beyond Sangar just before dark, when the scouts observed that the enemy was apparently countermarching up the Khanki. This was confirmed by a report received from a local inhabitant, who stated that the enemy had actually countermarched and divided into three parties, one of which was about to attack Sangar, the second Saragarhi and the third Gulistan. By this time darkness had come on and it was believed that this report was false and the countermarch a ruse, the real intention being to reach Hangu under cover of darkness and sack it. Accordingly the General decided to push on to hold the passes leading from the Khanki valley over the Samana ridge to Hangu. The march was accordingly continued, but at about 10 p. m. the enemy came up with the rearguard of the force and attacking it vigorously inflicted considerable damage. The camels which had joined the column with rations from Hangu just before dark were all taken by the enemy, and the column itself was not concentrated at its bivouacs guarding the passes until 2 a. m. Immediately day broke on the 12th a detachment was sent back to see if any of the camels and rations lost in the rearguard action of the

previous night could be recovered. Nothing was found, but it was discovered that a body of the enemy was holding a strong position between the force and Sangar the easternmost of the regular posts on the Samana. As it was believed that the enemy's main body was moving on Hangu the force then continued its march eastward reaching Lakka about 1 p.m. By this time the column was 10 miles from Lockhart and generally exhausted by 36 hours continuous operations without food or water. Throughout the day owing to the configuration of the ground it had not been found possible to open signalling communication with any of the Samana posts. It was therefore decided to fall back on Hangu so as to obtain the much-required rations and water. As the force was leaving the ridge signalling communication with Fort Lockhart was established and a message was received that Saragarhi had fallen and Gulistan was hard pressed. It was then too late to do anything but to continue the march to Hangu and return at the earliest possible minute. The force reached Hangu just before dark on the 12th and starting at midnight on the 13-14th reached the crest of the Samana ridge just before dawn, then marching along the Samana drove off three bodies of the enemy, one at Gogra attacking Sangar and Dhar posts, the next at Saragarhi and the third at Gulistan. Gulistan, 22½ miles from Hangu, was relieved at 1.0 p.m. on the 14th after a 52 hours siege. The casualties of the garrison amounted to 41 i. e. 25 per cent and an infant had been born to the wife of the commandant of the garrison during the siege.

Energetic action had saved the situation and overawed the enemy. The combined *lashkar* of the Afridis and Orakzais fled dispirited from the Samana ridge and dispersed. They took no further aggressive steps along the Kohat-Kurram border or elsewhere but prepared to meet the punishment which they knew awaited them when the British forces took the field in the middle of October.

Conclusion.

Now to summarise and contrast the two situations. In both cases we find excellent examples of the number of rumours, false and true, that arise to perplex every commander on the defensive

and of the difficulty in distinguishing false from true. Just as on Peshawar side false rumours induced the Officer Commanding to keep his forces scattered, so on the Kohat border we find the column on the Samana being drawn away by false rumours from the objective of the enemy, the Samana forts, and diverted towards Hangu. On both occasion true reports had been received, but the truth was obscured by the false.

Another point well worthy of note was the conduct of district levies and militia, when in charge of forts and posts which were attached by their own clansmen. Where there appeared to be reasonable prospect of relief or reinforcement by regular troops, they stood firm, *c. f.*, Sabkadr, Lakka, Saifaldarra, Balishkhel. Where there was no hope of early support they chose what was perhaps the wiser course and capitulated to their own tribesmen, *c. f.*, Shinawri, Torawari and the Khaibar forts. With regard to the latter it must be noted that a goodly number of the Landi Kotal garrison remained staunch and put up a good fight notwithstanding the odds against them, a certain number losing their lives through the treachery of the rest of the garrison. Soon after the fall of the forts in the Khaibar considerable numbers of the garrisons marched straight into Jamrud and gave themselves up with their rifles and ammunition.

Next with regard to the tactical situations. In some respects they were very similar and in some very dissimilar. In both areas the British troops were forced to remain on the defensive in so far as British territory was concerned. In each case there was a long line of frontier to defend. On the Peshawar side the defenders were inside a salient with an awkward tongue of territory jutting into the enemy's country to make the situation more difficult. The British force had the advantage of acting on interior lines against the Mohmands, Afridis and Jowakis. On the Kohat side the boot was on the other leg, the defending force was outside the salient with the enemy inside of it. The advantages of interior lines lay with the Jowakis, Orakzais and Chamkannis, because the central forces of the Orakzais could be directed along the radius of the circle either against the Kurram *via* Sada or in the neighbourhood of Kohat, while British

troops were marching round the circumference of the circle. This prevented the defending force from remaining concentrated at one central point.

If the situation on the Peshawar side happened in civilised warfare, it might well be advisable to withdraw from a bad position and to abandon the Khaibar at once, but in uncivilised warfare there are other questions to consider besides the tactical aspect of the case. Questions of prestige have to be considered. The loss of prestige often has results as serious as a bloody defeat, in that it may induce waverers to flock in large numbers to the standard of your enemies and remember that at this time the attitude of the Afghans was still very uncertain. It was known quite well that their sympathies were all on the side of the tribesmen. In some cases these sympathies had been converted into active assistance already. The Afghans in a case of this sort are always an uncertain factor, a little hesitation or weakness is quite sufficient to induce them to throw in their lot with their co-religionists on our side of the border.

It seems doubtful whether the situation on the Kohat side appeared any simpler to the officer in command than the situation on the other side appeared to the other commander. It was a distance of $147\frac{1}{2}$ miles from railhead at Khushalgarh to Parachinar. The 31 miles of road between Khushalgarh and Kohat run for the most part close to the Jowaki border. Kohat itself is only $3\frac{1}{2}$ miles from the Adam Khel border and 5 miles from the Orakzai border. If there was danger on the Peshawar side from the south and south-east, it would appear that there must be equal or more danger on the Kohat side from the same cause, as the border is so much closer. In Kohat city and neighbourhood there are turbulent elements, though on a smaller scale than in Peshawar.

Still it will be observed that the commander rigidly abstained from splitting up his force into small detachments and endeavouring to safeguard every place. When the Samana appeared to be most threatened he transferred his centre of gravity to Hangu and marched off every available man to that place. He risked his communications and left Kohat for 40 hours with only one

battalion. The Orakzais then appeared above Kohat and were promptly struck at on the same day that the officer in command of the force at Hangu hit at the gathering on the Samana. The small affair at the Ublan might well have made a weaker general change his plans and leave more troops in defence of Kohat, but troops arriving on the day of the affair at the Ublan were pushed on next morning to the more important centre at Hangu, and the garrison remained as weak as it was before. As soon as a second moveable column could be formed, the first was pushed on to Sada, a central spot for the protection of the Kurram Valley. This prompt action was only just in time to put an end to all trouble on the Kurram side.

In the meantime excursions were continually being pushed out from Kohat and Hangu to scour the country whenever rumours were brought in of hostile gatherings. One day a column was pushed out from Hangu or Kohat towards Marai, and on another day from Hangu to Shahukhel. Immediately the gathering on the Samana became formidable the General Officer Commanding moved up every available man on to the ridge on the 7th September leaving a growing depot at Hangu very weakly defended. The villagers in the Miranzai valley at the time were none too friendly. Camps were frequently fired into.

On the Kohat side the tactical offensive was the order of the day. No detachments were made, and no extra men were locked up in forts which were only secure enough against a coup de main. The striking force was kept as strong as possible and on the move. Whenever the enemy appeared, a force promptly marched against him. The loss of Saragarhi fort was not by any means due to the abandonment of the offensive but rather to the excessive zeal of the commander in getting at the enemy. So imbued was the commander with the offensive spirit that as recorded in the official account, he proposed to pursue immediately after the enemy had been driven from the Samana, marching one brigade up the Khanki and bringing the second brigade from Sada by the Gurekhta kotal into the head of the Khanki. This move was vetoed from Army Headquarters. Whether it would have been successful is a matter for conjecture.

It is very easy to be wise after the event, but the manner in which a combined *lashkar* of Afridis and Orakzais melted before an offensive by 1800 rifles on the Samana compels one to believe that an offensive conducted on these lines against the Afridis before their spirits had been raised by the capture of the Khaibar forts might even have had favourable results in the far more difficult ground in the Khaibar pass.

The policy of the tactical offensive no matter what the disparity of numbers, may be said to have been inaugurated as far as the British in India were concerned at the battle of Plassey on the 23rd June 1757, when Clive with his army of 900 Europeans, 2000 sepoys and 8 pieces of artillery decided to override the decision of a council of war that had just been held and to attack the Nawab of Bengal at the head of 35,000 foot, 15,000 horse, 50 cannon assisted by 40—50 French artillerymen. It was this policy which welded together the Indian Empire throughout the prolonged contests in the Mysore, Rohilla, Mahratta, Nepaul, Burmese and Sikh wars. It is this policy alone which will preserve the Indian Empire in years to come.

As these remarks were prefaced with the assurance that these can only be regarded as paper problems, so in conclusion it would be well to emphasise the fact once more. In reviewing historical examples it is impossible to avoid criticism if tactical principles are to be studied and if benefit is to be derived from their study. But criticism of military operations must be conducted in a spirit of deep humility, for it must be recollected that although Napoleon said "in war all is simple", still we must except the art of hitting on the right solution of a problem in the midst of the "Sturm and Drang" which are the inevitable accompaniment of all war. There are many who can solve a tactical problem satisfactorily from the depths of an arm-chair, or even on manoeuvres, but few, very few, who possess the faculty inherited or acquired by study, practice and experience of solving a similar problem expeditiously and well when they find themselves confronted with it in an actual theatre of war or on the modern field of battle.

TABLE I.

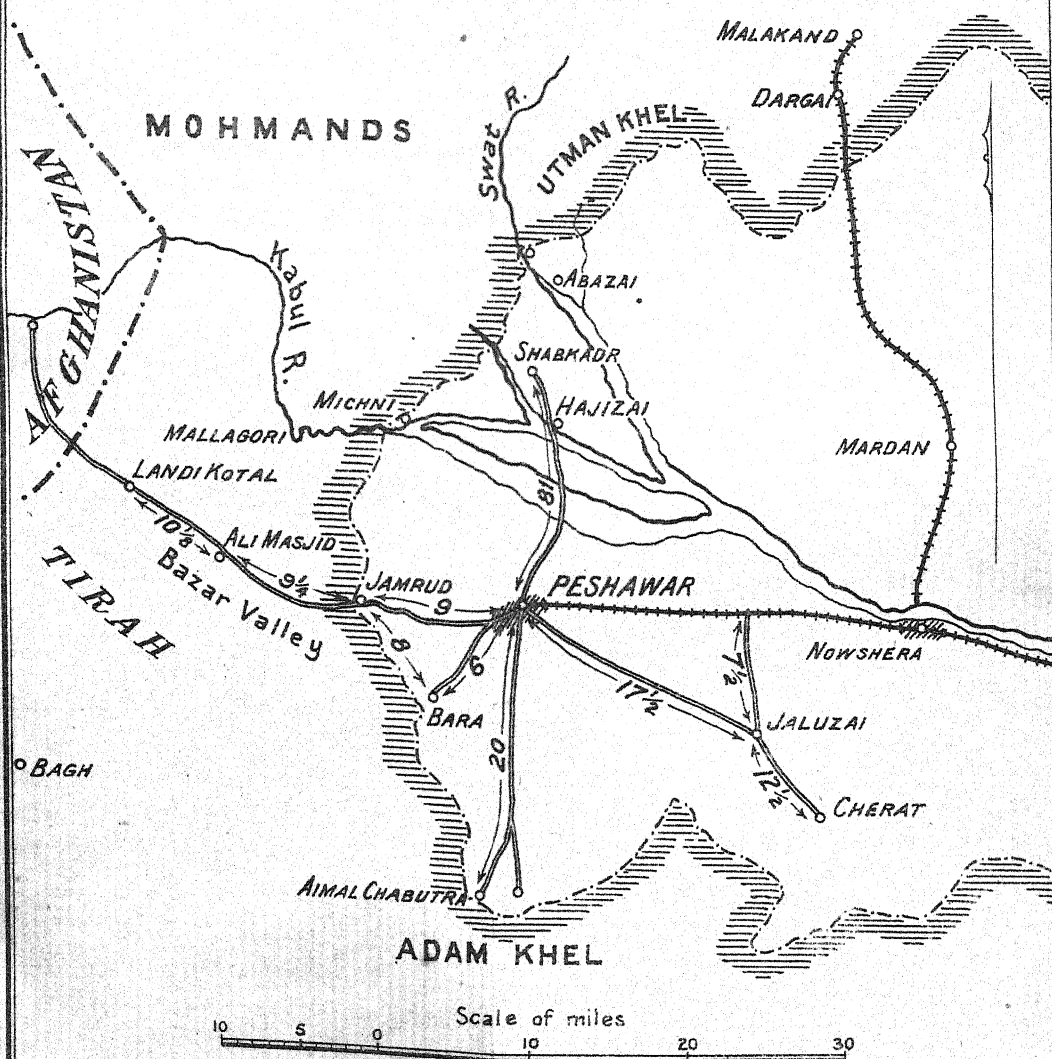
Date.	Place.	H. A.	F. A.	M. B.	B. C.	I. C.	B. I.	I. I.	S. & M.	
17th Aug.	Shabkadr	...	1	...	...	$\frac{3}{4}$	1	$2\frac{1}{2}$	1	
	Peshawar	1	1	1	1	$1\frac{1}{4}$	2	$2\frac{7}{8}$...	
	Total ...	1	2	1	1	2	3	$5\frac{3}{8}$	1	
	Arriving or 15th.	1	...	...	$\frac{1}{2}$	...	...	1	...	
18th Aug.	Shabkadr	...	1	...	...	$\frac{3}{4}$	1	$2\frac{1}{2}$	1	
	Jamrud...	1	...	1	1	...	$\frac{1}{2}$	$1\frac{3}{8}$...	
	Bara ...	...	...	...	...	$\frac{1}{8}$	...	$\frac{1}{8}$...	
	Peshawar	1	1	...	$\frac{1}{2}$	$1\frac{1}{8}$	$1\frac{3}{4}$	$2\frac{3}{8}$...	
	Total ...	2	2	1	$1\frac{1}{2}$	2	$3\frac{1}{4}$	$6\frac{3}{8}$	1	
21st Aug.	Shabkadr	...	1	...	...	$\frac{3}{4}$	1	$2\frac{1}{2}$	1	
	Jamrud...	1	...	1	1	...	1	$1\frac{7}{8}$...	
	Bara ...	...	1	...	...	$\frac{5}{8}$	$\frac{1}{2}$	$\frac{5}{8}$...	
	Peshawar	1	...	...	$\frac{1}{2}$	$\frac{5}{8}$	$1\frac{1}{4}$	$1\frac{3}{18}$...	
	Total ...	2	2	1	$1\frac{1}{2}$	2	$3\frac{3}{4}$ *	$6\frac{3}{8}$	1	$*\frac{1}{2}$ B.I. arrived
19th Aug. (possible)	Shabkadr	...	...	...	...	...	...	$\frac{1}{8}$...	
	Jamrud...	...	1	1	...	$\frac{1}{4}$	3	4	...	
	Peshawar moveable column.	2	1	...	$1\frac{1}{2}$	$1\frac{1}{2}$	...	...	...
	Peshawar	...	...	...	...	$\frac{1}{4}$	$\frac{1}{4}$	$1\frac{7}{8}$	1	
	Bara ...	...	...	...	...	...	...	$\frac{3}{8}$...	
	Total ...	2	2	1	$1\frac{1}{2}$	2	$3\frac{1}{4}$	$6\frac{3}{8}$	1	

TABLE II.

<i>Date.</i>	<i>Place.</i>	<i>A. F.</i>	<i>M. B.</i>	<i>I. C.</i>	<i>B. I.</i>	<i>I. I.</i>	<i>S. & M.</i>	
15th August	Kohat	$\frac{3}{4}$	$\frac{1}{2}$...	2	...	and Kurram Militia.
	Samana ...	...	...	...	...	$\frac{3}{4}$...	
	Parachinar ...	...	$\frac{1}{4}$	$\frac{1}{2}$	...	$\frac{3}{4}$...	
	Total ...	...	1	1	...	$3\frac{1}{2}$...	
27th August	Kohat ...	1	$\frac{1}{2}$	1	...	
	Samana ...	...	...	...	...	$\frac{3}{4}$...	
	Parachinar ...	...	$\frac{1}{3}$	$\frac{1}{2}$	...	$\frac{3}{4}$...	
	Hangu ...	...	$\frac{2}{3}$	$1\frac{1}{2}$	...	3	...
	Total ...	1	1	2	$\frac{1}{2}$	$5\frac{1}{2}$...	
29th August	Kohat ...	1	...	$\frac{1}{2}$	$\frac{1}{2}$	1	...	
	Samana ...	...	...	...	...	$\frac{3}{4}$...	
	Parachinar ...	...	$\frac{1}{2}$	$\frac{1}{2}$	...	$\frac{3}{4}$...	
	Hangu ...	1	$\frac{2}{3}$	$1\frac{1}{2}$	1	4	1	
	Total ...	2	1	$2\frac{1}{2}$	$1\frac{1}{2}$	$6\frac{1}{2}$	1	

Sketch 1.

THE PESHAWAR BORDER



and
jea
wha
cer
So
size

sid
Sir
size
a b
mu
gir
det
or
spl
thi
na

It
sha
of
gi
for
wo
tu
re
tu
yo
w

B
li
re
go
st
B

Cause and Effect in the Franco-German War.

III. The Last Phase.—concluded.

BY MAJOR G. M. ORR, 11th K. E. O. Lancers.

N. B.—For map of France see April Journal and for Bourbaki's theatre of operations see end of this article.

Readers of a previous article in the April number of the magazine will remember how the objective of Bourbaki's army had become changed under somewhat curious circumstances between mid December and the 28th of that month, on which date Bourbaki had telegraphed to de Freycinet that as Dijon had been evacuated his intention was to advance against the Germans under Werder; whether at Gray or Vesoul, according to circumstances. It will also be remembered that the execution of the intended plan of operations had been considerably influenced by a young ex-railway engineer, de Serres, who had been sent by de Freycinet on a special mission to be at Bourbaki's elbow. They will also remember how the army of territorials, untrained, ill-equipped, badly officered, had been detrained at Chalon and Chagny and had now to march and operate by day in a snow covered country with ice bound roads, and by night get what rest it could in bivouac.

The writer's intention is to follow that army a step further in its ill-fated progress, and show how the combination of the spirit of the defensive in the higher tactical leading with the difficulties inherent in an improvised army led to the opportunity being missed of striking a successful blow, the result of which would have been to alter materially the trend of operations in France.

On the 31st December de Freycinet became alarmed at the slowness of the movements of the Army of the East in view of the reports (quite incorrect) about the strength and movements of the German forces in the direction both of Langres and Belfort. He, therefore, urged Bourbaki to march quicker, and announced that he would send the 15th corps from Vierzion to him, replacing it by an improvised new corps.

It is interesting to note from his telegrams to de Serres how completely de Freycinet had accepted Bourbaki's intention of moving so as to raise the siege of Belfort before he ventured north against the enemy's single and vital line of communications. He proposes to send the 15th corps by rail through Besançon to a place called Clerval, beyond which the line to Belfort was broken, so that it can act with the 24th corps from Besançon in the direction of Belfort while the 18th and 20th corps move towards Vesoul or possibly Lure, thus taking the besiegers of Belfort between two fires. This plan was slightly modified on the 1st January to the extent of giving the destination of the 15th corps as Besançon because the railway authorities said Clerval was a wayside station quite unequipped to deal with train loads of animals and guns.

On this date, the 1st January, Bourbaki issued his orders for the advance next day of the 18th, 20th, 24th corps and the reserve brigade, from Auxonne, Dôle, Besançon and Chemin respectively to the line Grandville, Echenoz. Montbozon (with the reserve at Rioz) which was to be reached on the 4th January; Cremer's division from Dijon was to be at Champlitte on the 3rd.

No sooner had the marches begun on the 2nd January than M. de Serres began to show his failing, of commanding the army instead of Bourbaki. Alarmed for the safety of Dijon by news of the approach of Germans from the north west, de Serres telegraphed to de Freycinet to send a brigade of the 15th corps at once to Dijon instead of to Besançon and he implied that this was Bourbaki's wish. De Freycinet had no sooner made arrangements to do this than a despatch from Bourbaki showed that the latter considered the garrison of Dijon supplemented by Cremer, whom he had ordered back, was quite sufficient, and he had no desire to draw away any part of the 15th corps. De Serres' high-handedness called forth a severe rebuke from de Freycinet but at the same time Bourbaki acquiesced in the brigade going to Dijon when he heard de Freycinet had ordered it! Meanwhile de Serres issued various instructions to Garibaldi (who was undoubtedly very loth to move from Autun) with the result that Garibaldi tried to sieze railway stock intended for the move of

the 15th corps and then, on being called to order by de Freycinet with the added injunction to march to Dijon, flatly refused to move until trains could be provided.

On the 2nd Bourbaki had gone to Dôle where he was joined on the 3rd by de Serres. In the evening of the 3rd Bourbaki sent a long telegram to de Freycinet in which he clearly showed the intention of seeking out the enemy at Vesoul and attacking him, yet on the morning of the 4th Bourbaki, while his corps were still on the march to the objectives given them on the 1st, telegraphs to them to stop on the line Gy-Rioz. This order did not arrive in time to prevent the 20th corps in the centre from reaching nearly to Echenoz; the 18th corps on the left straggled from Fretigny back to Gy, while on the right the 24th corps was scattered between Avilley, Beaume, and Clerval. Bourbaki on the 4th was himself at Besançon and his despatch that evening to de Freycinet still seems to breathe an intention of attacking the enemy when met. Assuming his corps on the line Gy-Rioz and ignorant of their real positions he tells de Freycinet that on the morrow he intends to hold back his right and centre, and move forward his left. He inferred that Werder's Baden division was at Vesoul while the 4th reserve division was at Villersexel; information which was certainly not sent from, or corroborated by any reconnaissances. He continued that he was anxiously awaiting the 15th corps and that he intended to send it to Blamont in order to threaten Montbeliard while he attacked the enemy in its positions (which he apparently assumed to be in the direction of Villersexel).

How different were Bourbaki's actions to his intentions! His orders on the 4th merely told his corps commanders to halt and tell him of the enemy's movements. On the morning of the 5th they are told to pass next day to their right; the 24th corps about Rougemount, the 20th about Montbozon, the 18th about Pennesières. Up to the evening of the 5th there had been no corroboration of the information that Werder was on the line Villersexel-Vesoul: Bourbaki passed the forenoon of the 5th at Besançon and then moved his headquarters to Voray. On arriving at Voray he was met by a staff officer

from the 20th corps who had been sent to find out the meaning of the cessation of the advance on Vesoul.

It is from the interview which ensued that one can see the germ of a new idea; 'tell General Clichant,' said General Bourbaki, 'not to advance or attack. Without attacking the enemy both Dijon and Gray have been evacuated, similarly Vesoul, Lure, and Hericourt will be evacuated and the siege of Belfort raised.' At 7 o'clock that evening Bourbaki had heard enough to be able to tell de Freycinet that the enemy were retreating and concentrating on Vesoul; his despatch unfolded his new plan of moving towards Lure via Villersexel and so causing Vesoul to be evacuated. His orders to his troops however were to take up strong positions. While he ordered Cremer to remain near Dijon, he summoned the 15th corps brigade to Gy. He again announced his intention of awaiting the arrival of the 15th corps. Meanwhile M. de Serres, who had remained in Besançon, on the arrival of the leading trainload of the 15th corps ordered it and all following trains on to Clerval in ignorance of, or in spite of, the well known limitations of that station;—it is only fair to say that Bourbaki appears to have agreed to this course. It is not surprising to find that the 15th corps did not complete detrainment at Clerval till the 16th. There are few more tragic stories than that of the transfer by rail of the 15th corps from Vierzon to Clerval. Originally ordered to be complete in 36 hours when once begun, it took twelve days, and at the end hundreds of men and horses were pulled out frozen to death!

The 5th January is not only interesting as marking the abandonment of Bourbaki's idea of attacking the enemy, but because it was the day on which Von Werder began to realise he had Bourbaki's army in front of him,—the army which both he and the great headquarters at Versailles believed still round Bourges. Nor was Moltke at all convinced even then, by Werder's report, for he replied that Bourbaki was still at Bourges and only the 24th corps was near him. It was not till the morning of the 6th January that Moltke doubted. In the course of that day he ordered the 14th division, at Mezieres, to rejoin by rail their

corps (the VIIth) at Chatillon-sur-Seine, warned Zastrow, the corps commander, to be ready to move east, and ordered the IIInd corps to send a division to Courtenay, 25 miles north-west of Auxerre. It was not till the 7th that Moltke decided on sending a new "army" of these 2 corps, the IIInd and VIIth, under Manteuffel, to the assistance of Werder. It is an interesting example of the fog which the French people were able to create round the movements of their forces in their own country. The uncertainty with which the German commanders groped, and the anxiety which they endured, is admirably portrayed by Sir Lonsdale Hale in his book "The People's War" and must have been well nigh intolerable. In this case an army had been moved on the 19th December from Bourges and it was not till the 7th January that the great headquarters knew of it.

Werder now found himself with $2\frac{1}{2}$ weak divisions face to face with 3 French corps. He at once gave orders for a concentration on Vesoul. At the same time Bourbaki was doing his best to get away from Werder by moving to the east. As events turned out both sides were drawn, against their intention, into the battle known as that of Villersexel on the 9th January. The battle has hitherto figured as the result of a masterly stroke by Werder who dared to stay the French advance on Belfort by attacking them in flank and eventually getting to Belfort before them. It is true that Moltke sent instructions to Werder on the 7th to check the movement by attacking, but the instructions did not reach Werder till the 10th. That Werder did not mean to seek out Bourbaki and attack him is evident from his orders issued on the 8th at 9 a. m., which directed a movement on Lure under cover of the 4th reserve division which was to be pushed towards Villersexel.

Meanwhile on the 8th, of Bourbaki's corps the 18th had got as far as Montbozen on the right bank of the Oignon, the 20th and 24th were at, and just east of, Rougemont, the 3rd division of the 15th corps being half way between Rougemont and Clerval. The orders for the next day were to take the 4th corps to the line Villersexel-Arcey, the 18th corps on the left remaining on the right bank of the Oignon, the 15th corps (such of it as

had detrained) being echeloned between Arcey and Clerval on the right flank.

There is on record an appreciation of the situation by Bourbaki on the 8th. It appears from it that Bourbaki was satisfied that the enemy were round Vesoul; he argued that there were two courses open to him, to attack, in which case, he said, all would be lost if he suffered defeat, or to manoeuvre the enemy out of Vesoul. By taking up a position near Villersexel it would be necessary for Werder to attack him if the latter desired to make his way to Belfort. If Werder went elsewhere he would then move north. But he never meant to attack anybody—he meant always take up a position at the critical movement and let the enemy attack him. After all, as the French official account says, it was only the accepted French tactics of the day, the French had fought all their battles in the early part of the war on that principle—and lost! and for Bourbaki there appears to have been no lesson to be learnt. In this quite remarkable appreciation Bourbaki also lays stress on the difficulty of movement in such bad weather, the want of carrying power of his convoys, and the impossibility of getting into close touch with a railway. Never was a railway line put to such a wrong purpose as was the line from Besançon to Clerval when de Serres sent the trainloads of the 15th corps on from Besançon on the afternoon of the 5th January; whereas the corps might have been detrained at Besançon by midnight of the 8th,—9th, the corps had not finished detraining at Clerval till the 16th, up to which date whole sections between Besançon and Clerval were completely blocked for supply trains. If the 15th corps had been detrained as was originally intended at Besançon and the line to Clerval utilized for supply trains, Bourbaki's columns could have replenished successfully from Beaume and Clerval from the 6th onward.

As has been said Bourbaki's orders for the 9th were for his corps to reach the line Villersexel-Arcey, his intention being to make Werder evacuate Vesoul by taking up a position on the direct route between that place and Belfort. Werder up to midnight of 8th—9th still thought the French Army to be south of Vesoul and on the right bank of the Oignon. Between 1 a. m.

and 3 a. m. on the 9th reports came in of the presence of French troops at, and to the S. E. of, Villersexel. Werder at once realized there was no time to lose if he wished to interpose between Belfort and Bourbaki. His orders at 4 a. m. directed the Baden division on Athesans via Vy-les-Lure, leaving a detachment at Vesoul; Goltz's brigade on Noroy-le-Bourg with his cavalry on Moulins and Valleriois-le-Bois; Schmeling's reserve division was to push towards Villersexel, keeping, however, its main body at Aillevans.

That Werder's intention was to get to Belfort as quickly as possible *via* Lure and not to attack Bourbaki is still further proved by a telegram which Werder sent to Treskow besieging Belfort, in which he said "I presume you will be attacked today—keep me informed telegraphically through Lure".

In spite of the evident intention on both sides not to fight, a battle took place. Werder's flank guard butted against a French advanced guard at Villersexel. The sound of guns was too much for the Germans, with the result that Werder turned his columns south. The outcome of the fighting which continued throughout the night of the 9th, was that Villersexel remained in the hands of the French. The morning of the 10th found Werder's troops massed between Aillevans and 2 miles north of Villersexel on both banks of the Oignon, while Bourbaki's corps extended from Villersexel to 2 miles east of Vellechevreux, so that Werder must presumably be cut off from Treskow. Bourbaki had only to use his 15th corps to safeguard his right flank from annoyance from Treskow and with his remaining 3 corps push Werder into the Vosges, while at the same time Cremer with his division harried the German retreating columns from the direction of Gray. However little some may blame Bourbaki for failing to grasp the true objective of his army, nothing can mitigate the crime of inactivity which he displayed after Villersexel. The reason is evident enough from his despatches to M de Freycinet and was due to the combination of an inordinate fear of an attack on his right flank, the bogie of difficulty of supply, and a continued want of confidence in his army.

Perhaps Bourbaki's Greek extraction did not make him sufficiently a Frenchman to realize what could be got out of an

army of Frenchmen filled with patriotism and flushed with tactical success. The army, though it had not all taken part, knew the day had ended with the defeat of the dreaded Prussians and Bavarians. As a matter of fact only 1 division in each of the 18th and 20th corps had suffered much loss, the totals in dead wounded and missing in the 2 corps being 49 officers and 1,321 men. There is evidence of the 18th and 20th corps being in high spirits and full of confidence. All the trials of marching and bivouacking in execrable weather would have been instantly forgotten in an immediate advance; in two marches they would have been astride the railway from Vesoul and their columns could have replenished from the train loads of supplies which the French *intendence* always kept standing at junctions to be made use of in just such an opportunity.

Much had been made of the difficulty of supply; it is true the columns were all improvised and consisted of country carts, their horses and drivers; with difficulty the remnants of the regular "Trains" and their depots provided supervising personnel. The faults inherent in such organization; straggling; desertion; want of discipline; want of experience; showed themselves in a marked degree, especially in an environment of hardships such as the rearward services shared with the fighting troops in the intensely cold and bad weather. There was no shortage of supplies in rear of the army but the effect of improvised columns combined with bad staff work was that the troops often failed to get what they wanted in time.

Bourbaki's fear for his right was due to the exaggerated reports which came in on the evening of the 9th pointing to the presence of large numbers of Germans in Arcey. The information came from the maire of Onans and absolutely no attempt was made by anyone to ascertain its truth, in fact a brigade of the 15th corps which had been directed to Onans hurriedly retreated to Genay on merely hearing the alarming news. At a little after midnight Bourbaki wired to M de Freycinet that he was preparing to repel another attack—an idea echoed by M de Serrres. Orders were issued to move the strength of the army to his right flank, the 18th corps being drawn to the left bank of the Oignon. The certain evidence of the retreat of the Germans from before

Villersexel had no effect on Bourbaki whose thoughts were entirely on taking up a new position to repel an attack. A predilection for taking up positions—the antithesis of the desire to manoeuvre and attack—was the leading feature in the higher leading of the French army. The French leaders thought that with a quick firing rifle like the *chassepôt*, the defensive was the high road to success—to wait till the enemy had exhausted himself or been mown down by rapid fire, and *then* to turn on him. It is a method which is apt to get too much credit given it in peace; one is apt to forget that the side attacked, in war, would get just as exhausted as the side which attacks. The longer the offensive is deferred, the more exhausted will the defender be, and, in war, the more will his nerves be strained. In war, nerves bulk very large, in peace they are never considered. A defensive attitude inculcated in peace degenerates, when applied in war, from a temporary to a purely passive defence.

In the course of the 10th January Bourbaki had clear evidence of Werder's retreat *via* Beverne, with which news in his possession Bourbaki must have known that not only was Werder no longer in a position even to assist in an attack on him, but that all chance of separating Werder from Belfort was gone. Bourbaki had failed finally to achieve the object of the last few days manoeuvres, which may be said to have been to get between Werder and Belfort. The only justification which Bourbaki could not find for his move on Arcey was that its occupation safeguarded his communications with Clerval. It was in those terms that he reported to de Freycinet on the 11th. It was not till the 13th that any attack was made even on Arcey:— never were 48 hours so wasted by doing nothing.

It was during the 10th that Werder got numerous indications of the storm gathering in the direction of Auxerre; troops were reported as having been withdrawn from the siege of Paris and sent south east; Prince Frederick Charles was moving eastwards; troops were appearing between Chablis and Chaumont.

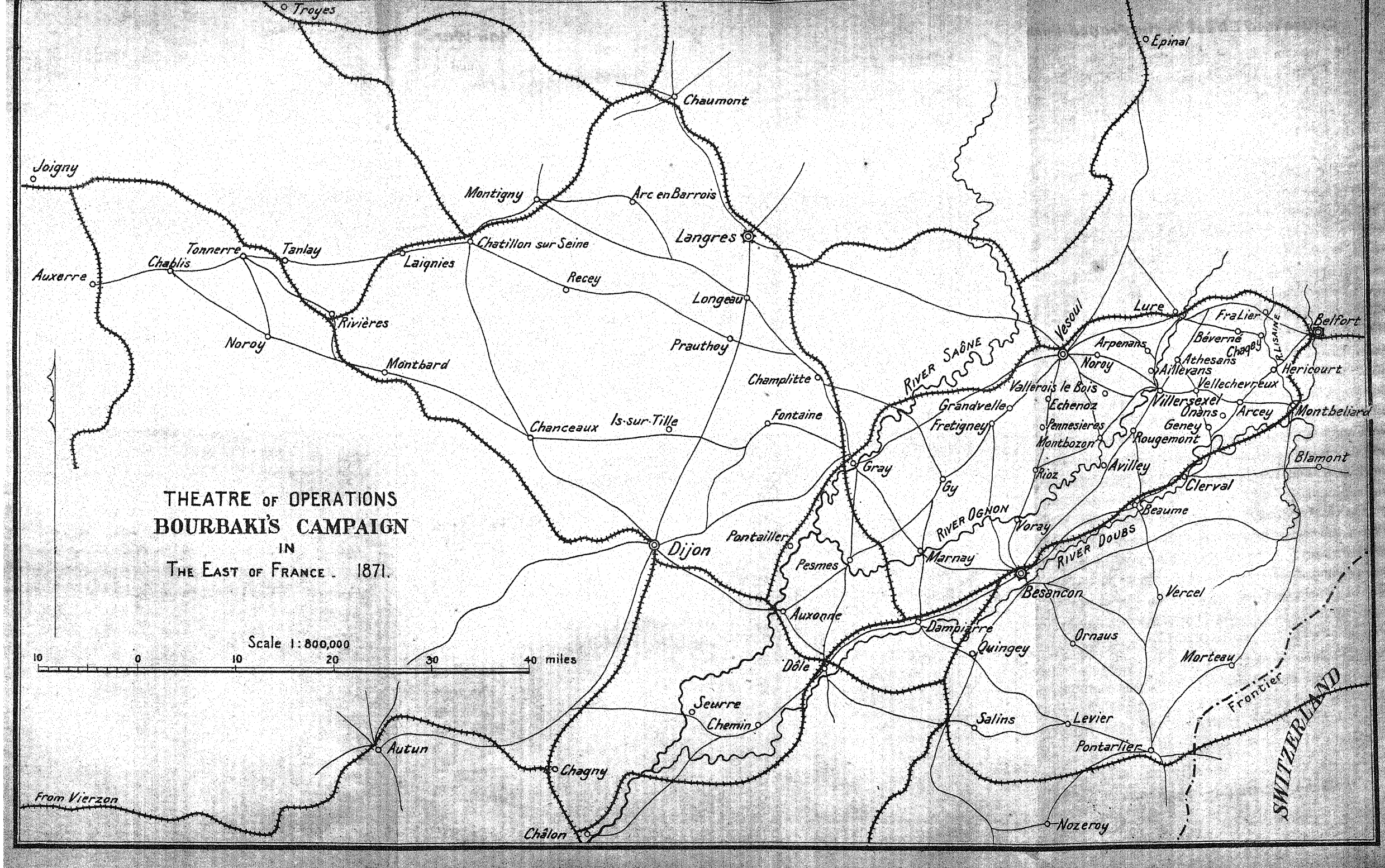
It was on the evening of the 10th that Manteuffel arrived at Versailles to receive his instructions from Moltke on appointment to command the new Army of the South. On the evening

of the 12th he reached Chatillon and on the 13th issued his orders for the advance of the army, which on that day was disposed with the 14th division just completing its detrainment at Montigny, the 13th division at Chatillon, and the IIInd corps on the line Rivières—Noyers. By the 17th the VIIth corps divisions were at Langeau and Prauthoy and the IIInd corps at Issur-Tille. On this date Bourbaki, having failed on the 15th and 16th to force the line of the Lisaine in spite of his superior numbers and hearing of the approach of German columns to Gray, felt retreat was necessary, but decided to consult some of his subordinates. Some were for and some against, finally, turning to one of the younger of those who advocated a further attack he said "I am 20 years too old—generals should be of your age," and rode away to issue orders for the retreat to begin next day. Manteuffel's two corps, moving by the routes Champlittre-Gy-Dampierre-Levier, and Fontaine-Gray-Dôle-Salins-Nozeroy, headed off Bourbaki from retreating down the Doubs. On the 26th Bourbaki felt he could no longer cope with his difficulties and tried to commit suicide. By the 31st Manteuffel had hemmed the French army into Pontarlier and was ready to attack the next day with the IIInd and VIIth corps on the roads from Nozeroy and Levier, and Werders divisions on those from Ornans and Morteau.

On the 1st February a mob, unrecognizable as soldiers, began to cross the Swiss frontier and the campaign was over. In a month an army of 150,000 men had melted away;—there had been 14,000 casualties, 15,000 had been left during the retreat practically as stragglers in Besançon, 15,000 had fallen prisoners into German hands, 90,000 were interned in Switzerland and 16,000 stragglers escaped back into France.

Other such French territorial armies had melted away before the vigorous offensive of the German armies; in the west at Le Mans on the 12th January; in the north at St Quentin on the 19th January; and finally on the 28th January Paris had capitulated. France was conquered.

Books chiefly consulted;—The French official accounts.



Notes on the Development and Use of Fortification in the Field.

BY LIEUTENANT-COLONEL P. G. TWINING, M.V.O., R.E.

Field fortification, particularly in regard to its application as an aid to the offensive, has of recent years received a good deal of attention at the hands of writers on military subjects. The latest edition of our Field Service Regulations contains chapters which deal even with the attack of fortresses, their investment and their defence, as well as with siege operations, while some knowledge regarding the details of entrenchments and their use in the field has long been required of all arms alike. The notes which follow may therefore be of general interest. On the frontiers of this country we have dealt, in the past, principally with the sangar and the stockade, but our task will not always lie wholly upon the Indian frontier—it is quite within the bounds of possibility that the army in India may, at some time, be called upon to attack something more modern than a sangered ridge and to deal with the laying out and execution of field defences other than perimeter camps and picquet posts. An attempt is therefore made here, in the first instance, to trace the growth of present ideas regarding the use and arrangement of field defences and, in the second place, to outline very briefly how those ideas may best be applied in practice. The subject is one which it is only possible to touch upon very lightly within the limits of a single paper, what is attempted therefore is only a very sketchy reference to past history followed by an enumeration of certain general principles. No claim is laid to originality, the notes that follow are, generally, rather of the nature of a compilation—as such, it is hoped that they may have some value. There is one point to note specially in connection with the principles hereinafter enumerated; they are of all round application—for “rapid” fortification in the field and more deliberate fortification executed in times of peace are governed by the same general laws—Now as regards the history of fortification generally.

In very early days, in fact up to the introduction of gunpowder and artillery, fortification was wholly defensive. Protection was sought for behind lofty walls, with towers at intervals, which provided quarters for the garrison and served to some extent the purpose of flanking the intermediate curtains. The walls were notched along the top and in places, wooden galleries were thrown out, these were loopholed on their sides and through the floors; later, these galleries became masonry "machicouli" galleries. These defences were against missile throwing appliances, battering rams, arrows and spears. The whole area to be defended was enclosed. The objects sought after were (a) Protection for the garrison (b) To oppose a strong physical obstacle to the enemy. The defence relied mainly upon the physical obstacle and was entirely "passive."

Early in the 14th century gunpowder was first employed in warfare and weapons throwing missiles by the explosion of gunpowder began to be employed in war. No radical change in ideas as to fortification took place, however, until early in the 15th century. The changes then made were first of all some provision for the use of guns from behind walls with a strengthening of the walls themselves to enable them to withstand the effect of guns from without the enceinte. This provision took the form of opening out the embrasures in the lower part of the wall and of throwing out projections along its base to receive the guns of the period while, inside and against the wall, banks of earth were thrown up. The projections along the base were, from the first, called "bastions" and, in addition to affording places from which guns could fire, they also gave a means of flanking adjacent curtains.

Here can be traced the first real endeavour towards giving fuller effect to the fire of the defence from behind the wall—one step forward.

The next change was brought about on account of the great damage done to the lofty walls of the enceinte by the fire of the attack. It came to be realised that the wall must, as far as possible, be concealed and it was accordingly dropped into the ground with that idea in view—the first move towards concealment of the defensive enceinte—another step forward.

The next advance was a ditch in front of the wall in order to preserve the physical obstacle, which was still considered of great importance. This ditch also served the additional purpose of making it difficult for the enemy to mine, a very old form of attack. Next, on the outer edge of the ditch, a defensive parapet was established—another step, the first, towards defence of the enceinte from outside the enclosing wall. After a time it became the custom to establish advanced works beyond the exterior edge of the ditch or “counterscarp” with the idea, first of all, of giving protection to roads to and from the fortress. Such works were called “demi-lunes” or “ravelins”. These were used to some extent also as supporting points or “points d’appui” for offensive action on the part of the garrison, as also for rallying points upon which the defenders could fall back. This constituted a very great advance as it transferred the defence, to some extent, from within the main enceinte to points outside and at some distance from it—the first dim recognition as to the possibilities of an offensive in fortress design. The enceinte itself remained continuous.

Thus it is possible to trace the following steps in advance.

- 1st. Provision for the use of the defenders weapons.
- 2nd. Provision of flanking fire.
- 3rd. Concealment of the enceinte.
- 4th. The beginnings of defence from outside the enceinte itself.
- 5th Defence transferred to a greater extent outside, and at some distance from, the main enceinte and the first recognition accorded to an offensive in fortification design.

Now, without following out all of the changes that took place as time went on, it is sufficient to say that for many years the offensive idea in connection with fortification made very slow progress. Defensive lines around a fortified place were, it is true, gradually pushed out farther, but for many years continuous rings or lines of defence held the field. It was the Crimean war which first taught the value of defensive lines with strong points and intervals. Following that came the Commission on National Defence which sat in 1859 in England. The principles

laid down by this Commission were, generally, that in connection with the defence of any locality there should be strong points designed so as to give effect to the weapons of the defence, complete clearance of the field of fire, intervals between the strong points defended both from the "points d'appui" and from trenches in rear of the interval, easy and good lateral and radial communications and a reserve. This approximates somewhat to present day ideas except that the strong points just mentioned were then of the nature of permanent forts.

After some years came the Franco-German war which really inaugurated the present period of fortification. During this struggle there was a very large amount of fortress warfare almost entirely against places fortified under old systems, close, cramped, and confined, with little chance of, or room for, offensive action. Paris and Metz really succumbed to the blockade—Strassbourg made a good defence but the most notable siege during the war, as an instance of the offensive spirit in fortification, was that of Belfort. The Commandant of that fortress was a man of much energy and capacity, the garrison was adequate and of good quality and, after the outbreak of war, some months were available for preparation. The old enceinte of Belfort had been built by Vauban, and Rocherau, the Commandant—realized that as it stood it could easily be smothered by a close converging bombardment so, in order to prevent this as well as to give himself freedom for manoeuvre, he pushed out his main defensive lines well clear of the enceinte. Two strong earthworks were constructed on the edge of Les Perches and one west of the town near the existing fort of Bellevue—outlying villages and farms such as Pereuse and Danjoution etc, were prepared for defence—positions for the use of indirect artillery fire were prepared and, during the course of the siege, sorties and offensive movements were carried out; in many cases counter approaches were also undertaken against those of the attack—in fact the whole spirit of Rocherau's defence was offence, the result being that the besiegers never got in and Belfort still remains in French territory. The spirit of the garrison and the actual arrangement of the defences were both admirable—power expended on actual defence was

economised and power available for offence was thereby increased—the design of the field defences was extremely good while, as regards their arrangement, there was nothing to hamper, but a good deal to assist, offensive action on the part of the garrison. This approximates closely to what is laid down regarding the defence in our own field service regulations of the present day.

It may be as well to note the point here that, according to the ideas of to-day, peace preparations would no longer include an interior enceinte for the two main reasons that, on account of the distance to which the outer belt would be pushed, an interior enceinte would be of little use and also the reduction of that belt would practically mean complete defeat. At Port Arthur a continuous inner line was included in the Russian scheme—money, time, labour and material were expended upon this which might with more advantage have been devoted to the outer belt and in the end, the fortress itself fell with the outer defences. There is no time to go into the detail of these defences—they held out for a long time after the close investment and had they received more attention, could probably have held out very much longer.

There are many lessons to be learnt from Port Arthur both for attack and defence but perhaps the most important lessons are for the attack. One lesson in particular is of great importance, namely, that old siege methods by mine and burrow and sap which were held to have become obsolete were found to be necessary. Not only were they used but they had to be used and it is acknowledged now that an attacking force will, in the future, require to use them, possibly even against earthworks. The old principles of this method of warfare remain the same, what differences there are will be in the distances at which these principles must be applied and in some of the details of their application. Hence the chapters in our Field Service Regulations bearing upon siege warfare.

So much for history—What can be learned by looking at it may, generally, be said to be (i) that the centre of gravity of the defence has now moved forward from the old enceinte to the front trench line; this is due principally to the improvements in weapons which require, for the full development of fire effect, the wide extent of trenches rather than the limited faces of works

- (ii) the fighters between the trenches must now realize that very much depends on them while (iii); the commander of the whole must realize that a very great part of the value of entrenchments lies in the assistance which they should render to counter-attack.

The centre of gravity of the defence has shifted forward to the front trench line—it will be well therefore to examine the principles which should govern the selection, preparation and occupation of that line. The term “zone of resistance” or “entrenched zone” will be used in referring to it hereafter, that being a general term with which can more easily be associated the idea of counter attack than with the expression “defensive position.” Only a very cursory examination will be possible here, and in order to clear the ground, the following general statements, which in this connection are practically axiomatic, may be noted.

1. Principles do not vary—The same general principles as apply to a zone of resistance when time for preparation is not limited and numbers are large, can be applied to a case where numbers are small and time for preparation short.

2. The first condition regarding the selection and occupation of an entrenched zone is that the enemy is not able to ignore or manoeuvre round it, but forced to attack.

3. Tactics are, in part, only methods employed to get the best shooting effect out of any given force—similarly, the principal function of field engineering, properly applied, is to ensure the most effective shooting from the smallest possible team.

4. An important consideration regulating the use of field engineering generally, in any zone of resistance, should be how much damage is it possible, by its use, to inflict upon an enemy and not how can any force or body of men be, by its use, best protected.

5. The defensive share of the fighting in any entrenched zone *i. e.*, the actual defended front, is now allotted to relatively small numbers F. S. R. 108 (2). If these numbers are considered as being “placed in charge of” rather than “posted for the defence of”, certain parts of the zone, we get the idea of “local” as well as of “general” reserves.

6. The business of the "defensive" portions of the force should be as much to encourage as to resist attack, *i. e.* activity not passivity.

7. The depth and arrangement of the zone of resistance depends first upon the ground, but both depth and arrangement should be such as to compel the enemy to develop a frontage broken and irregular, difficult to support by artillery fire, deficient in lateral cohesion, and so presenting local flanks open to local counter attack—This distortion of the attack provides the necessary encouragement for activity on the part of the defensive portion of the opposing force and is most important. It also does away with the literal idea of "a line of defence." It is comparable in some degree to the practice of encouraging flies to walk to their destruction singly over treacled paper rather than that of blocking their advance by a wire screen.

8. Finally—fortification, in all its branches, is no longer an abstruse geometrical science but rather is it a matter of common sense, regulated by certain accepted and essential principles of the art of war. Of the latter the most important to remember is that "counter attack is the best means of defence." To make counter attack possible under unfavourable conditions to an enemy should be the great aim in the use of fortification in the field.

These statements embody most of what is of first importance in the principles laid down in F. S. R. I. 107-8.

Before going on to speak further regarding the zone of resistance there is a word to say about false fronts to that zone, thrown forward with the idea of mystifying an enemy and so bringing about his premature deployment. Such fronts have been, and are at present, strongly advocated, particularly by both the German and French schools of military thought. They have their advantages certainly but they have the great disadvantage of all advanced work, *i. e.*, the possibility of their holding the enemy too long, unless retirement from them is very skilfully timed and carried out. False flanks have however much less of this disadvantage. These cause a wider and a more premature dispersion of the enemy than either a false or the real front of the zone

would do, they also increase the length of his circuit necessary for a turning movement while withdrawal of the troops manning them, if skilfully carried out, allows the latter to play the part of echelon supports, resisting envelopment of the main zone about which they pivot and tending, so to speak, towards drawing the fly on to the paper prepared for his destruction.

Now as to the selection of the zone of resistance—this is dealt with, generally, in F. S. Regulations Part I 108 (2) (3) et seq. and particularly, in the Manual of Field Engineering Chapter VII; there is little to be said here which is not already covered by what is included in both these books. Attention can however be directed to one or two of the more important points included in Chapters on "The Defence," F. S. R. Part I. 107-108, which are generally applicable whatever may be the nature of the resistance contemplated. These points are as follows:—

- (i) The whole force, at the beginning particularly, must be kept well in hand.
- (ii) Preliminary measures are to be based upon a very thorough reconnaissance of the selected zone.
- (iii) The extent of the zone must depend largely upon time available for preparation which, in turn is governed by strategical considerations.
- (iv) Influence of ground upon effect of fire is the first consideration governing selection.

Many other conditions also govern selection of the zone but it is obvious that in no case can all be fulfilled. Compromise is essential and the skill with which compromise is made will always be a measure of the resultant effect. Such skill depends primarily upon:

- (a) A natural, or acquired, good eye for country.
- (b) Experience.
- (c) Study of ground, as it affects fire, during the course of all operations undertaken in connection with regimental and other training and manœuvres.
- (d) Study of military history which affords many examples of disaster as well as of success in defensive operations.
- (e) The exercise, in all cases, of ordinary common sense,

In speaking of the arrangement of defences within the limits of a selected zone (see also F.S.R. Part I. 108 (5) et seq) the following applies more particularly to deliberate preparation when considerable time is available and a large force is concerned. There is, however, no very essential difference in principle between such preparation and the arrangement of the defences when time is limited and the force is small. Within the limits of a selected zone there will always be certain areas or localities, small or large, which contain, or may become, points of tactical advantage to the enemy and which are therefore important to the defender. These are the "points d'appui" or "pivots" of the zone—footholds for the defensive portion of the force which is for the time being awaiting attack, pivots of manoeuvre for reserves of that force. It is well to note here that the terms "pivot" and "post" should never be confused—the former has a definite meaning as a strong point in a defensive zone, the latter is a very general term of many applications—The adoption of localities, such as are mentioned above, to the purpose of the commander is of great importance—they may be either commanding points or areas, and in the latter case, may include a village or wood. Their defence must be undertaken as a whole, and in arranging for this, the principle of producing destruction to an enemy attacking them must be borne in mind.

A redoubt of sealed pattern planted upon the most commanding point, or upon some other site within the pivot area, cannot be deemed an adequate treatment of the locality. What is required is the creation, over these areas, of "defensive groups" of field defences presenting a broken and irregular front—such groups have been fitly called "strongholds of dispersed elements". The arrangement and design of the elements composing each group are determined principally by the form and contour of the ground. The foregrounds of each group would be cleared and treated with obstacles and all round communication should be established by communication trenches—groups such as these may comprise rifle pits, trenches, emplacements for machine guns and even, in certain cases, for field guns, with possibly something of the nature of a field redoubt as a kernel. The diagrams,

plates 16 to 18 Manual of Field Engineering, give examples of what is meant.

The whole of the dispersed elements of one such stronghold, taken together, will in fact correspond somewhat to the idea of a miniature fortress, each element of the group having men specially told off for its defence. Here, as throughout the whole zone, the ideal is that the position of each rifle, machine gun and field artillery emplacement also, if the latter be provided, should be carefully selected so as to ensure the maximum of effective fire. Needless to say, such strongholds will in very many cases grow from small beginnings. The garrison of the stronghold should either be a complete unit or an easily handled portion of one. The intervals between the pivots will be regulated principally by the configuration of the ground—should the ground be open it would appear desirable that the whole of the space intervening between any two adjoining pivots should be under the close rifle fire of one or other, which would give 1200 to 1400 yards as the maximum interval in such a case. Either pivot would then be able to sweep the front of the other with effective fire. No absolutely fixed distance can however be laid down.

Supports for the replacement of casualties in the firing line of an entire stronghold would be disposed in sheltered localities in rear, either artificial or created, the connection being by deep zig zagged communication trenches. It is impossible to exaggerate the importance of good communications not only within any defensive group in a zone but throughout the whole of the zone; these are the arteries of a modern offensive defensive battle by which reinforcements are introduced, troops retired, stores brought up and the wounded removed. In the absence of good communication the morale of the troops is liable to be affected and they cannot be trusted to do their best.

Mention has been made of a field redoubt as the kernel of a group. It is most important to remember that this need not necessarily be of any particular design shewn in the Manual of Military Engineering. It is the ground which must principally influence the design of the redoubt. What is meant, generally, by the term field redoubt, is a good fire position for a certain

number of rifles with a created obstacle in front, provided with certain conveniences in rear of the firing line for the use of the firers. The front of such a redoubt will be broken rather than straight and there will be no markedly angular junctions of front and flanks, while the gorge may be either open, closed, or partially closed. The firing trenches will be recessed and provided with head cover and loopholes, either single or continuous or both. These trenches will be stepped down in rear of the firers to a depth sufficient to allow of men moving along them laterally under cover; they should also be such a width as to allow of the passage along them of a blanket stretcher and should have no sharp turns, they must also be drained and provided with soak pits where necessary.

Expense recesses must be provided for ammunition along their length, and also lookout places for fire commanders and emplacements for machine guns, the latter should allow for a lateral sweep of up to 120 degrees. Radiating back from the fire trench would be covered passages leading to splinter or shell proof kitchens, hospital, and resting places for men off duty. In front would be a ditch, sloped and wide, while in and also beyond this ditch would be obstacles of wire, etc. with trips, flares and alarms, cunningly arranged. From the loopholes there must be a clear and uninterrupted field of view and fire, and the command of the whole place should be so low as to render it inconspicuous and difficult to locate. The trace will be irregular depending upon the ground and parts of the perimeter, from which a good view is not obtainable, must be connected with other parts by a simple communication trench.

So much for the "points d'appui" and the redoubt. Now for the treatment of intervals between them.

Here again there is only space for a very general statement.

What is required may be said to be, generally, a chain of selected firing points well echeloned back, in a concave festoon in plan, entrenched and concealed, only lightly picketed with troops but ready to receive fresh troops should these become necessary to counter a serious attempt at punching a hole through the interval. In reality the firing points in the intervals provide a screen in front of the lateral communications of the zone

and of the batteries posted in support of its main defensive groups, and they afford a means as well, of controlling ground dead to the fire from these groups—most important points to remember in connection with their siting—The use of obstacles in connection with the firing points of the interval screen gives an opportunity for the exercise of much ingenuity. There is no absolutely fixed rule regulating the siting of these but it is well to remember the conditions which an obstacle should fulfil both as regards its position and its nature. Artillery will usually be placed between the main defensive groups of the zone and behind its interval firing points. So placed, the guns can carry out their own role while inaccurate fire directed on the trenches will not do them much damage. For the guns many alternative emplacements will be provided.

Such, in general, is the present day idea of a “zone of resistance”. There are many points, both as regards its general arrangement; and regarding details, upon which it has been impossible to touch. One point is of very great importance *viz* :—the choice between the forward or retired position for trenches, etc. on sloping ground and in hilly country. Discussion regarding this would require a separate paper—soil, vulnerability, concealment, effect of hostile shells, communications, whether the trenches are to be deep or shallow, and a host of other minor matters, all require consideration in this connection and these matters cannot be even touched upon here. One other point—a detail but a most important one,—is the question as to loopholes—shall they be single or continuous and what is the ideal form of construction for either—regarding this much might also be said—and practical experience is here of the very greatest value. Every officer should certainly know how to make the best loophole in the shortest time out of materials on the ground. Section of trenches, nature and extent of head, splinter, or shell proof cover, siting of obstacles, field gun emplacements, cover for reserves, and a host of other details must all be passed over here but, in connection with all such points, what is necessary is to get hold of principles, and to exercise common sense—the result will not then be far out—it is most important also to remember that in the preparation, arrangement and occupation of any zone of resistance, principles

remain fixed, details vary with the varying conditions of ground, numbers, etc.

Last, as regards the distribution of a force awaiting an enemy's attack with a view to creating a favourable opportunity for offensive action—there is generally some confusion of thought regarding this; Field Service Regulations do not go into details regarding it but lay down certain general principles, the more important of which are the following.

(i) *Regarding the ground.*

- (a) As we have already seen, no position is actually occupied along its entire length, the front is broken up into a series of strong points with intervals between. F.S.R. Part I. 108 (9)—It is however never safe to leave any ground entirely unprotected. F. S. R. Part I. 108 (7), last sub para.
 - (b) The defence of special tactical points should be entrusted to complete units *e. g.* companies etc. F. S. R. Part I 108 (7).
 - (c) Although the extent of ground actually held when the direction of the enemy's advance is definitely known, is limited by numbers available, the extent of ground reconnoitred and prepared for occupation may be much larger and should admit of alternative distribution of force to meet the various courses of action open to the enemy F. S. R. Part I. 108 (2).
- (ii) *Regarding frontage and distribution.*
- (a) The frontage occupied must never be so great as to reduce the force kept in hand, for ultimate assumption of the offensive, much below one half the total available force; this divides the troops into two main portions, one half for the defence of the position, the other half (general reserve) for the decisive counter attack F. S. R. Part I. 108 (2) (5)
 - (b) When the utmost development of rifle fire is required, not more than one man per yard can usefully be employed in one line; ground naturally favourable to the defence, or made so artificially, will however require a less dense line, F. S. R. Part I. 103 (3) (8).

- (c) Local reserves must be provided for the defence of intervals (local counter attack) strength about equal to that of the firing line with its supports. F. S. R. Part I, 108 (6) (8) (9).
- (d) Supports, to replace casualties in the firing line, should be from $\frac{1}{5}$ to $\frac{1}{2}$ the strength of that line F. S. R. Part I. 108 (8).

As an academic illustration of the above, take the following; (the numbers used are round numbers) A brigade, strength 3000 rifles, acting alone, is awaiting attack with a view to creating a favourable opportunity for offensive action. The distribution would be, normally :—

(a) In general reserve 1500 rifles.

(b) Local reserves, firing line and supports—1500 rifles.

The front occupied would be broken into strong points with intervals, and for purposes of occupation, would be divided into sections, the extent of each section depending upon the power of control of one commander and varying according to the ground. Each section would be assigned to a distinct unit and would have its firing line, with supports, to replace casualties in that line, and its local reserves F. S. R. Part I. 108 (6).

In this case, the front may conveniently be divided into two sections *i. e.* one per battalion—each battalion might then have

In local reserve ... 4 Coys (376 rifles)

In firing line, with supports ... 4 Coys ditto.

A commander would be appointed for the firing line, the O. C. battalion remaining, personally, with the local reserve.

Taking the proportion of supports to firing line as $\frac{1}{2}$ to 1, (*i.e.* the maximum proportion given in F. S. R. Part I. 108 (8)) this works out to 250 rifles per battalion as a firing line, with a support of 125 rifles to replace firing line casualties and 375 rifles in local reserve.

The whole brigade would therefore have, for the firing line, 500 rifles—in support to firing line, 250 rifles—in local reserve 750 rifles.

At one man per yard, this would mean a total defensive front for the brigade of 1250 yards (the supports are not included

in the one man per yard calculation as they are intended simply to replace firing line casualties).

But, and it is most important to note this point—in the above case it is assumed that the fullest development of fire is required along a whole front or, in other words, that the whole of the ground to be occupied is such as to require one man per yard—such however would seldom be the case—certain parts of every position selected will be either naturally easier to defend than other parts, or can be made so artificially. The actual frontage which the brigade, acting under the conditions assumed, can take up and defend will be governed principally by two factors—the nature of the ground and the time available for preparation—a front of 1250 yards for the brigade is not therefore a fixed limit, the extent of front will not be less than that but may, and in most cases will, probably be greater. The above calculation is only a guide. Including the general reserve, the total of men per yard works out, in this case, to $2\frac{1}{2}$.

In the case of a brigade, as part of a division, the number of rifles available for firing line, supports and local reserves will be greater than the above as, in that case, nothing need be deducted from the strength of the brigade for a general reserve.

Regarding preparation of the front taken up—where plenty of time is available, the position of strong points would be indicated throughout the whole length to commanders of sections of the defence. Time will not however always be available for this. In such a case the commanders of sections must consult as to how they are going to hold the front allotted. This is very necessary. As regards the distance apart of the supporting points, it has already been noted that this will depend very largely upon the ground, where the country is very open two pivots may be as much as 1200 yards apart. That would probably be the maximum distance in any case. It would just allow of the ground between being under close rifle fire from either one of the two. The extent of frontage which can be allotted to various units in the defence, as well as in the attack, depends also to a considerable degree, in any locality, upon the character and extent of the communications in that theatre as a whole. This is a matter which cannot however be touched upon in what has just been written.

There remains now a word to say concerning the work of the field engineer—What is his duty, and how can he best apply his skill—The following paragraph taken from a recent article in the R. E. Journal is quoted in this connection. “Although a good “defence relies more upon the man behind the gun than anything “else and although material aid from the engineer is not the “side of defence upon which it is wise to lay most stress, “it still remains the duty of the Engineer to apply his skill “in seeking the best possible requirements of strength and “it is for him to place these at the disposal of the commander “to be used or not as the latter sees fit”—That is an admirable summary but it is always important to remember that the strength of field engineering produces no result of value, but rather a resultant which is harmful, unless it be applied in the right place in the correct quantity and form and at the proper time. If in these respects its application be correct great economy of force will result, for it cannot be denied that, in the warfare of to-day, no general can afford to rely upon the rifle alone and to neglect “the spade” and by “the spade” is meant the resources of field engineering. As regards the infantry officer—if he can acquire sound principles, details will to a great extent work themselves out in the application of those principles to any particular case. At all events with all that he has to do in his own job, it is hopeless to expect that he should be able to acquire very much more than the general principles which underly the work and the use of the other arms of the service.

Strategical Studies, "1805."

BY LIEUT.-COLONEL A. W. ANDREWS, *114th Mahrattas.*

- I. Study of War.
- II. Peace Strategy.
- III. Policy and Strategy.
- IV. Theatre of Operations.
- V. Time and Place.
- VI. Single Line of Operations.
- VII. Stratagem.
- VIII. Battle.
- IX. Relative Importance of Factors.
- X. Detachment of Mind.
- XI. Pliability in Choice of Means.
- XII. Ability to Manoeuvre.

NOTE.—*Parts VI to XII will appear in subsequent issues of this Journal.*

STUDY OF WAR.

The campaign of 1805, like all the campaigns of the greatest practical exemplar of war in the modern world, is full of interest and affords a bountiful field for reflection.

Napoleon is the creator of modern strategy. It was he who welded into a science the lessons of two thousand years of history, and those who have become great in recent wars have become so by following in his footsteps. "Whoever," says von Moltke, "is well enough acquainted with the campaigns of Napoleon, to be able to recall at any moment the details of his campaigns and the movements that he ordered, has always in his hand the key to the movements proper to make under any given circumstances."

With all the glory of 1866 and 1870 which an admiring world justly vouchsafed him, had he been avaricious of fame, or had he, like his great prototype, been desirous of posing before the bar of future history, Moltke could have carried his secret with him "across the bar." But his unselfishness and true nobility of character were never more beautifully

shown than when he left on record the above quoted lines, a true but only a just tribute by a great soldier to a mighty kindred spirit.

A long and careful study of Napoleon and his methods, together with a critical examination of recent campaigns, leaves no room for doubt that apart from all other considerations, the success of the Prussians in 1866 and in 1870-1, as also that of the Japanese in 1904, was due in the first instance to the fact that a succession of brilliant military thinkers in Germany, Gneisenau, Clausewitz, Willisen, Blume and von Moltke, had each and all profoundly studied Napoleon. They went to the fountain head and there, each pursuing independently his own line of study, imbibed what they believed to be the Napoleonic method. This accounts for their contradictory views and also explains how it is that the French General Staff, which, since the disasters of 1870, has set itself the same task, is to-day arriving at conclusions regarding the higher parts of war—entirely at variance with those hitherto held by military thinkers across the Rhine.

What Clausewitz, Blume, Willisen and von Moltke did for the Prussians, and what the French General Staff is doing for the French, Colonel Henderson strove to do for the British army. He, like von Moltke, recognized that the campaigns of Napoleon were an epitome of all that had gone before, and that in his preparations and means for ensuring success Napoleon was the model for our time.

Although three campaigns, 1849, 1854 and 1859 had immediately preceded the outbreak of the War of Secession, Colonel Henderson saw nothing in them that could have given Stonewall Jackson the light and leading which enabled him, while others were hewing their way through a tanglewood of obstacles, to detect promptly and unerringly the road to success. "The maxims of Napoleon, carried in his haversack," says Henderson, "were constantly consulted throughout his campaigns, and this little volume contains a fairly complete exposition, in Napoleon's own words, of the grand principles of war. Moreover, Jackson often quoted principles which are not to be found in the Maxims ;

"but on which Napoleon acted. It is clear, therefore, that he had
"studied the campaigns of the great Corsican in order to discover
"the principles on which military success is based; that having
"studied and reflected on those principles, and the effect their
"application produced in numerous concrete cases, they became so
"firmly embedded in his mind as to be ever present, guiding him
"into the right path, or warning him against the wrong, whenever
"he had to deal with a strategical or tactical situation."

Colonel Henderson's greatness and his value to the British army lies in the fact that he, too, went to the source of modern war for his strategical guidance; and that in taking up the campaigns of the Great Master; in dissecting and analysing them for himself, and in solving them by the light of his own wisdom and intellect he acquired that intellectual training which is so essential for anyone who hopes to be successful in war. He says that the mere acceptance of what others had thought out for themselves, or the mere cramming of the "quack
"cure-alls for examination purposes" which periodically flood the British army, was not only no training for higher command, but had rather the opposite and undesirable effect of stifling all originality of thought.

What Henderson did for himself, and what he wished to see in his brother officers, he saw in Stonewall Jackson. He saw him in his quiet home at Lexington, studying the operations around Ulm in 1805, or the brilliant effort of 1809, and then reflecting on what he had read, making his own the experience of others, strengthening his intellect, and acquiring that command over his attention which no tempest, confusion, or clashing of opinion could disturb. "War
"is a matter of impression," was always uppermost in Napoleon's thoughts. Jackson realised this, the result of study, thought and reflection. His Valley Campaign reflects, in every phase, that realisation, and that is why his operations were always such an enigma to his intellectually unprepared subordinates, and a recurring source of anxiety to the generals and politicians in Washington.

If we officers of the British army wish to show our appreciation of Colonel Henderson's efforts we cannot do better than

follow in his footsteps. The campaign of 1805 affords us the opportunity. Let us put aside the habit, all too common, of blindly following others. We may not discover anything very new or original, but we shall accustom ourselves to habits of reflection and of thinking strategically. By taking the historically recorded facts regarding the situation; by pondering them; by struggling to discern the essential from the less essential; by allotting to factors their real relative importance; by drilling ourselves to discover the principles and the effect their application produced or may produce under other conditions, and by reflecting upon the relations between cause and effect, we shall in time acquire habits that may be of priceless value to our army and our country.

As a strategist and a tactician Lord Nelson gave repeated proof of high native endowment, of wisdom garnered through fruitful study and meditation.

"If," said Napoleon, "I always appeared prepared, it is because, before entering on an undertaking, I have meditated for long and have foreseen what may occur. It is not genius which reveals to me suddenly what I should do in circumstances unexpected by others, it is thought and meditation."

The Duke of Wellington told Shaw Kennedy that "he had always made it a rule to study for some hours by himself every day." Perhaps no other soldier of that period in the British army, except Sir John Moore, gave so many hours to solitary study, so much time to reflection, so much time to thought and analysis which was to prepare him for his life's work as did the future victor of Waterloo. It was this that gave him light and leading when everyone else floundered in darkness; it was this that enabled him to discard the worn out methods of Germany and Austria; and it was this, and this alone, that inspired him to introduce into his operations in Spain, from the very outset, that freshness and vitality that bewildered his hitherto victorious foe.

The Chief of the Imperial General Staff appeals for originality of thought, for light on the art of generalship, and for progress in military ideas. This practical request can only be met by constant study, determined application, and a courage-

ous resolve, undeterred by failure, to solve the problems of war for ourselves. On the one side in this campaign we see Napoleon with his trained intellect, fortified with an enlightened knowledge of the principles upon which success is based, the result of study and reflection. Opposed to him was a man of the ordinary type who thought that the ascending scale of military routine was sufficient qualification for his high calling, who had no time for study, whose intellectual faculties were undeveloped and who was oblivious of the spirit of war as exemplified by Gustavus and Marlborough. Mack was soundly thrashed as he deserved to be.

II. PEACE STRATEGY.

When considering the efforts made by the Third Coalition to stem the tide of Napoleonic despotism, we should approach the subject in a generous and sympathetic spirit. In these days of military enlightenment when every officer has access to numbers of authoritative works dealing with the campaigns of the past, it is a simple matter to read a chapter and say that this or that should have been done; that this or that general should have been hanged; that this or that minister should have been impeached. The science of war, as we know it to-day, and read it in the pages of Clausewitz or Henderson, was practically unknown when the events took place which we are considering.

It was Napoleon who welded the lessons of two thousand years into a science, and perhaps his greatest claim to fame rests upon his having realized, as no one before his time had done, that organization, theatres of war, lines of communication, zones of assembly, selection of depots and magazines, distribution of forces, organisation of the staff, arrangements to accentuate our own strength or to diminish that of the possible opponent by diplomacy, etc. etc., must not be left to improvised methods on the instant when war is declared. It was not only during his campaigns that Berthier was kept busy; but in the intervals of peace, when we should expect to see him and his assistant getting a little repose, his exacting master drove him harder and harder. "What is the good," he said once to the Emperor, "of having given me an income of sixty thousand

"pounds a year in order to inflict on me the tortures of Tantalus ?
"I shall die here with all this work."

It was during the four years of peace preceding the campaign of 1805 that Napoleon organized the victories that staggered contemporary humanity. Embodying in himself the civil and military control of the state, knowing what he wanted, and being an essentially practical man of affairs, he applied himself with all his untiring energy to providing the instrument which was to further his ambitious aims and safeguard his position against the envy, malice, and hatred of monarchical Europe.

The result was the Grand Army, which in training, officering, organization, equipment, administrative services, marching capacity, power of endurance, confidence in itself and its leaders, and in ardour for its cause, was infinitely the most formidable organization for war in Europe.

But his efforts, during these years of peace, were not confined to his army. Theatres of war were selected and studied; officers were dispatched to visit them, and to submit reports regarding the roads, rivers, fortresses, bridges, and sources of supply. The lines of advance converging upon and passing over these areas were examined, reported upon, and the reports recorded in the topographical section. The lines of communication were carefully considered, points for supply depots and magazines noted, and the places to be fortified or strengthened were recorded. Information likely to be of any use on every conceivable subject was systematically collected. Plans of campaign against all possible opponents or combinations of opponents were prepared, repeatedly examined, and pondered over. The history of previous campaigns or the lives of great commanders were requisitioned and their operations in Swabia, in Holland, or in Franconia were drawn upon to assist in the evolution of plans or to be used as a warning against the repetitions of errors. The organization of the General Staff, which, under the direction of the methodical and indefatigable Berthier, had proved so efficient in 1796-7, was overhauled and readjusted to suit expanding conditions. Well-paid spies, distributed throughout Europe reported on the strength, disposition and movement of foreign

armies, and also on the political tendencies of the time. The action or the demeanour of states contiguous to selected theatres of war (as of Prussia in the present case) was anticipated or provided for.

During these years in fact the strategy of peace was a living entity, never for a moment inactive, but pushing forward silently and surely towards the consummation the Emperor had in view. It was this strategy of peace which produced the culminating triumph of October 1805, when the Grand Army, 200,000 strong stood deployed on the Danube, whence its mere forward movement meant the strangling of Mack's communications, the destruction of his army—it was but 60,000 strong—and demoralisation in the councils of the Coalition.

This was the lesson, with others, that the Prussian General Staff garnered in the Napoleonic field. During the years prior to 1870, it applied it with intense energy and unfaltering resolution to its own case. It was this that rendered possible, nay certain, the crowning triumph of those first days of August 1870 when the combined forces of Germany stood united 350,000 strong in a typical Napoleonic line of masses—complete in every respect and with Army commanders impatiently awaiting the order to advance. The French were defeated before hostilities began. The same applies with equal force to ourselves in 1899 and to the Russians of 1904. The Russians were defeated ten years ago because one hundred years after 1805 they were still ignorant of the means necessary to ensure success, or a reasonable probability of success; because they had not selected and thoroughly considered the theatre of war and the multiplex questions of time and space, considerations necessary if the lesson of October 1805 is not to be repeated. We were no better in 1899; the strategical chaos which prevailed after our landing in South Africa, if repeated against enemies capable of concentrating and assuming a vigorous offensive, can have but one result. This is our second lesson, viz. that the strategist, more than anyone else, must not relax for a single instant his efforts during peace to foresee, anticipate, and arrange for every eventuality of war. "Human affairs," wrote Henderson, "have "no nemesis so terrible as neglected peace strategy."

III. POLICY AND STRATEGY.

On January 15th 1805, the King of England announced in parliament the formation of political connections with Russia which pointed to the formation of a third Coalition. About the same time a treaty was concluded between Russia and Sweden, for the avowed purpose of "maintaining the balance of power in Europe, and of providing for the independence of Germany."

To confirm this resolution a Russian corps was disembarked in Pomerania to act in conjunction with the Swedish forces. This act of policy in opposition to the requirements of strategy did no good, but rather harm, since it warned Napoleon that something was afoot.

Austria expressed sympathetic and friendly sentiments; Prussia stood aloof.

On the 11th April, 1805, a treaty was signed between England and Russia at St. Petersburg, which regulated the terms and objects of the contracting parties, and the forces they were respectively to employ to carry these into execution. In July, 1805, Austria accepted these conditions and joined the Coalition.

The political objects were :—

1. To compel the evacuation of Hanover and North Germany by France.
2. To establish the independence of Holland and Switzerland.
3. To establish the King of Sardinia in the Kingdom of Piedmont.
4. To ensure the security of the Kingdom of Naples.
5. To compel the French to evacuate Italy.

The forces to be employed were fixed at 500,000 men independent of any England might supply. England had under arms at this time 180,000 regulars and militia and 400,000 fencibles and volunteers.

A separate article indicated that the parties to the treaty should proceed to act as soon as 400,000 men were in the field. This number was to be made up as follows :—

Austria	...	...	... 250,000
Russia	...	...	... 115,000

Hanover	}	...	...	...	35,000
Sardinia					
Naples					
			Total	<hr/>	... 400,000

On August 31, Sweden came in and agreed to maintain 12,000 men in Pomerania.

Months before this an Austrian force of 18,000 men had been sent forward to occupy the Tyrol. This also did no good, but again drew Napoleon's attention to what was going on.

We must keep the "political object" *i.e.*, the compelling of France to renounce all conquests and to revert to her ante-revolutionary limits constantly in view. It is the beginning, and forms the basis of all strategical study. It is the Ariadne's thread which guides us to our strategical goal.

England was the banker; financial arrangements were satisfactory; Austria, Sweden, Russia and the lesser States were to find the 500,000 men. The political object was clearly defined as "to compel France to revert to her original boundaries "and to secure the liberties of Europe."

It was now a question only of time and expediency as to when hostilities should be commenced. Time because it was necessary that the different forces of the Coalition, especially those of Russia, should be brought together to ensure co-operation. Expediency because it was the negation of common sense to begin operations with only a portion of the available forces.

A nation or a coalition, which, after consultation with its military advisers, comes to the settled conclusion that 500,000 men is the minimum strength with which the political object can be attained, is merely gambling with the national resources and inviting disaster if it attempts to achieve its object with but a small fraction of its forces. "Forces sufficient," says Alison, "were provided to effect the deliverance of Europe if ignorance "or infatuation had not directed them in the field. Diplomacy "had done its part; war was now required to complete the under-taking. Mr. Pitt might have said with Wallace, when he had "assembled the Scottish Peers on the field of Falkirk, "Now "gallants; I have brought you to the ring; dance as you may."

But had diplomacy done its part? Is there any moment from the very commencement *i. e.*, the fixing of the political object by policy to the time when peace has been proclaimed that policy can be said to dissociate itself from strategy? "No," emphatically "no!" policy sets forth the object of the war, contracts alliances and agreements, provides for the neutrality of neighbouring states, arranges for financing the scheme, and brings the forces required. Far from abdicating when the time arrives for the armies to march or the guns to speak, its supervision must be continuous, unbroken, from beginning to end. Policy, however, saw no such necessity; it saw distant territories feebly guarded and it clamoured to occupy them. Strategy required that the enemy's main army should be the first consideration, and that the most direct road should be taken to reach that army with all the armed strength of the Coalition, only detaching such small forces as were absolutely necessary. Policy took its eyes entirely from the hostile main army and allowed them to wander over the whole of Europe even as far as Naples in the south and Stralsund in the north.

This shows how discordant were the notes of policy and strategy prior to the commencement of hostilities in 1805; it shows how divorced from each other were the political and military situations in peace, and it shows how the germs of future disaster were sown owing to the want of harmony between the policy of the cabinets at London, St. Petersburg and Vienna, and the requirements of their strategists.

The political object required that France should abandon her conquests and revert to her former frontiers. To attain this object it was not only necessary to defeat the hostile armies, but to deprive Napoleon of his armies and his throne and to exert such a pressure on France that she would readily acquiesce in the demands of the Coalition.

The task was indeed great. Its only hope of achievement required that the whole armed strength of the Coalition should be rapidly, energetically, resolutely, and unflinchingly projected by the shortest and most direct road on Paris, the heart of the French Empire. Nine more years checkered by misfortune and

disaster were to roll by before the Third Coalition, at last firm in the recognition of this principle, stood triumphant on the heights of Montmartre.

This campaign, like so many others, shows how vitally important is the harmonious co-operation of policy and strategy. When this agreement and concord does not exist; when policy wishes to impose its will on the enemy regardless of the requirements of strategy, then policy is paving the way for disaster. It is only by the loyal, sympathetic, and never ceasing co-operation between the politician and the strategist at every point, that the aggressive, ambitious, or defensive policy of a state can be carried to a successful conclusion.

But this harmony between policy and strategy, seldom perfect in a single state, is much more difficult of attainment where a coalition is concerned. The story of our operations in the Crimea is one prolonged reiteration of this truth. The great and irrefutable lesson to be gained from the campaign of 1805 is that a coalition, if it is to be successful, must be animated by a common purpose and inspired by a single aim, which also demands a certain amount of give and take, self-effacement, and self-sacrifice for the common good. The generous recognition of these principles will go a long way towards assuring the smooth working of policy and strategy. "Nor has anything "been more advantageous to us," says the Roman annalist,* "in "combating the most powerful nations, than that they adopt no "common measures. It is rare to see an alliance between two or "three states to avert a common danger: thus, as they engage "singly they are all conquered."

IV.—THEATRE OF OPERATIONS.

In selecting the theatre of operations we must be guided not altogether by geographical considerations, or by the known location of the opposing forces at the time, or by the hypothetical direction or directions in which they will be employed, but rather by the aim or aims that policy has in view.

The determination of the theatre of operations follows logically from the object of the war as laid down by policy. The misfortunes of the Second and Third Coalitions in 1800 and

* Tacitus, Agricola, 12.

in 1805 were due primarily to their failure to recognise this fact. The imagination often centres upon Marengo as the culminating factor of the war of 1800; but brilliant though it was, Marengo exerted but little influence on the campaign as a whole. It was fought on June 15th, 1800, and Napoleon immediately wrote to the Emperor of Austria conjuring him in the name of humanity to come to terms. But his entreaties were treated with contempt, and it was not until six months later, when Moreau's continuous pressure along the Danube had forced the Archduke John back almost to Vienna, that Austria at length succumbed.

When policy starts with limited aspirations, such as those of England and France in 1854, or of Japan in 1904, it is possible that blows delivered at one or other of the extremities of a scattered or vast empire, will result in the moderate demands of policy being accorded to. But when policy takes the bull by the horns, goes the whole hog in fact, and determines on a line of action the accomplishment of which is only possible by striking at the heart of the enemy's country, destroying his armies and compelling his ruler to submit, then a different line of action must be adopted. We must now select that part of the theatre of war upon which the conduct of our operations will enable us most readily and directly to attain the ambitious objects laid down by policy. To do this requires on our part the ability to distinguish readily the point in the theatres of war at which the concentrated attack should be directed, and to possess the strength of mind to disregard all secondary matters however important they may seem to be, in order to bring our whole force to bear at the decisive point. In this respect Napoleon displays, in all his early campaigns, the clearest perception, with each changing fortune of the game, of what is essential at the time, and the most resolute adherence to what he recognises as essential.

With the map of Europe before us, and keeping in view the political object of the Third Coalition, and having regard to the relative positions of Paris and Vienna, it is easy to see that the valley of the Danube, the line Molk, Wels, Brunnau, Ulm, Strasbourg, along which the heart of the enemy's country could be most directly and readily reached, was the primary theatre of war.

This was the decisive area of this extended theatre and it was along this line that all the forces, all the means, and all the energy of the Coalition should have been applied.

In almost all the offensive operations initiated against France from the east, the Second and Third Coalition allotted to the theatre of operations in Italy a prominence out of all proportion to its importance in the general plan. How different with Napoleon. In 1800, although he went to Italy himself, he recognised that constant and unremitting pressure against Kray's army, directly covering Vienna, was of primary importance. And again in 1805 he quickly saw—the result of prolonged study of the campaigns of the great masters—that a decisive victory on the Danube would decide the war, and that every effort should be concentrated against the hostile forces in that direction. Consequently, drawing Marmont and Bernadotte in from Hanover, and St. Cyr from Naples, he placed 200,000 men there, and only 50,000 men in Italy.

The campaign therefore admirably illustrates the vital importance of training ourselves by study and reflection to be able unerringly to select the theatre of operations or to be able to say, having regard to the political object in view, which is the decisive point in an extended theatre of war.

V.—TIME AND PLACE.

"What I desire," wrote Stonewall Jackson in 1862, "is to hold the country as far as possible until we are in a condition to advance; and then, with God's blessing, let us make thorough work of it. But let us start right." In 1867 Molke wrote to Roon, the Minister of war: "The North German Confederation will by next year possess the forces requisite for engaging successfully in a war with France, even without South German co-operation. The only requisite is that these forces should be assembled at the proper time and place." How great and lasting have been the evils that have befallen the military nations of the modern world through the failure of their politicians and strategists to realise the profound truth contained in the last sentence quoted above.

In 1805 the third Coalition had the requisite forces for engaging in a war with France with fair prospect of success, but it failed to assemble them at the right time and place. In 1870 the politicians and strategists of France negated all hope of success through failing, as Jackson puts it "to start right." In 1904 the Czar of Russia had at his disposal more than sufficient forces to justify his entrance into the war with high hopes of success, but he failed to bring those forces together at the proper time and at the right place. It required, in each case, the initial impact of disaster to open their eyes, to rouse them from their torpor, and to guide them into the way of common sense. Each nation strove, after its Ulm, its Worth, or its Liaoyang, to remedy the mistakes brought about by its failure to bring together its forces at the right time and place. But they failed, and though their efforts may excite the sympathy of the historian they also remind us of the grave responsibility attaching to our calling.

The Prussian Official Account of the campaign of 1870 says: "Errors in the original assembly of the army can scarcely ever be rectified during the course of the campaign." It might also have said, with equal truth, that not only can they scarcely ever be rectified, but that they invariably lead to further errors unless a general of commanding genius is at hand to take the helm.

The strategists of the Third Coalition reckoned on the inability of the French army to reach the Danube before November 10th; Napoleon falsified their estimates by five weeks. In calculating when the Russians would arrive, they failed to allow for the twelve days' difference between the old and the new calendar. Not only were their calculations of time deplorable, but equally so was their conception of the place at which their forces could be safely concentrated. That Mack should concentrate behind the safe position near St. Polten, or even advance to the Traun, was comprehensible; but the position on the Iller was absurd, unless it was to utilise space to gain time by manoeuvring until the Russians could come into line.

The disaster of Ulm opened the eyes of the strategists of the Coalition. They saw, all too late, how the heart of the Austrian Empire was laid bare. They ordered Kutusov with his fifty

thousand Russians to hold the line of the Inn ; but that general, burning the bridges in his rear, was already in full retreat. They turned to the Archduke Charles with his ninety thousand men, but he was already falling back towards the Drave, and so accentuating his original error. They appealed to the Army of the Tyrol ; but, paralysed by the wave of invasion that was sweeping down the Danube, it was already hastening after the Archduke Charles. Thus forces amounting to 180,000 men, the equal in numbers of Napoleon's invading army, were in full retreat without having fired a shot that could promote or influence in the slightest degree the object the Coalition had in view.

Courier after courier was despatched to the Archduke Charles urging him to hasten his march to the scene of danger ; frantic efforts were made to put the reserves at Vienna on a war footing to cover the capital ; the levies in Hungary and Lower Austria were pressed forward with all possible rapidity ; and urgent appeals were repeated to Buxhowden to hasten the march of his troops to the Valley of the Danube. But these laudable efforts were fruitless. The errors of time and place in the original concentration could no longer be rectified ; and these errors continued to multiply until on December 2nd the Coalition—with 100,000 men in England, 15,000 in Naples, 90,000 in Hungary, 40,000 in Pomerania and 90,000 at Olschau felt itself compelled to fight at Austerlitz, the decisive battle of the war, with but 90,000 men. From the date of the surrender at Ulm, the Coalition lost all freedom in its strategical dispositions. It had to completely subordinate its views and actions to those of the enemy. It not only had to accept the law from the enemy, but was daily dominated by him. Its resolutions and intended dispositions to remedy its original errors were constantly interrupted and rendered impossible by the dominating acts of its opponent. The errors in the original concentration of the forces could not be rectified in the course of the campaign, but had, as their consequence, the complete destruction of the hopes of the Allies at Austerlitz, and the temporary dissolution of the Third Coalition, which, with half the forces of Europe ranged under its banners, had advanced to fight for the liberties and freedom of the world.

(To be continued.)

In 1805 the third Coalition had the requisite forces for engaging in a war with France with fair prospect of success, but it failed to assemble them at the right time and place. In 1870 the politicians and strategists of France negated all hope of success through failing, as Jackson puts it "to start right." In 1904 the Czar of Russia had at his disposal more than sufficient forces to justify his entrance into the war with high hopes of success, but he failed to bring those forces together at the proper time and at the right place. It required, in each case, the initial impact of disaster to open their eyes, to rouse them from their torpor, and to guide them into the way of common sense. Each nation strove, after its Ulm, its Worth, or its Liaoyang, to remedy the mistakes brought about by its failure to bring together its forces at the right time and place. But they failed, and though their efforts may excite the sympathy of the historian they also remind us of the grave responsibility attaching to our calling.

The Prussian Official Account of the campaign of 1870 says: "Errors in the original assembly of the army can scarcely ever be rectified during the course of the campaign." It might also have said, with equal truth, that not only can they scarcely ever be rectified, but that they invariably lead to further errors unless a general of commanding genius is at hand to take the helm.

The strategists of the Third Coalition reckoned on the inability of the French army to reach the Danube before November 10th; Napoleon falsified their estimates by five weeks. In calculating when the Russians would arrive, they failed to allow for the twelve days' difference between the old and the new calendar. Not only were their calculations of time deplorable, but equally so was their conception of the place at which their forces could be safely concentrated. That Mack should concentrate behind the safe position near St. Polten, or even advance to the Traun, was comprehensible; but the position on the Iller was absurd, unless it was to utilise space to gain time by manœuvring until the Russians could come into line.

The disaster of Ulm opened the eyes of the strategists of the Coalition. They saw, all too late, how the heart of the Austrian Empire was laid bare. They ordered Kutusov with his fifty

thousand Russians to hold the line of the Inn; but that general, burning the bridges in his rear, was already in full retreat. They turned to the Archduke Charles with his ninety thousand men, but he was already falling back towards the Drave, and so accentuating his original error. They appealed to the Army of the Tyrol; but, paralysed by the wave of invasion that was sweeping down the Danube, it was already hastening after the Archduke Charles. Thus forces amounting to 180,000 men, the equal in numbers of Napoleon's invading army, were in full retreat without having fired a shot that could promote or influence in the slightest degree the object the Coalition had in view.

Courier after courier was despatched to the Archduke Charles urging him to hasten his march to the scene of danger; frantic efforts were made to put the reserves at Vienna on a war footing to cover the capital; the levies in Hungary and Lower Austria were pressed forward with all possible rapidity; and urgent appeals were repeated to Buxhowden to hasten the march of his troops to the Valley of the Danube. But these laudable efforts were fruitless. The errors of time and place in the original concentration could no longer be rectified; and these errors continued to multiply until on December 2nd the Coalition—with 100,000 men in England, 15,000 in Naples, 90,000 in Hungary, 40,000 in Pomerania and 90,000 at Olschau felt itself compelled to fight at Austerlitz, the decisive battle of the war, with but 90,000 men. From the date of the surrender at Ulm, the Coalition lost all freedom in its strategical dispositions. It had to completely subordinate its views and actions to those of the enemy. It not only had to accept the law from the enemy, but was daily dominated by him. Its resolutions and intended dispositions to remedy its original errors were constantly interrupted and rendered impossible by the dominating acts of its opponent. The errors in the original concentration of the forces could not be rectified in the course of the campaign, but had, as their consequence, the complete destruction of the hopes of the Allies at Austerlitz, and the temporary dissolution of the Third Coalition, which, with half the forces of Europe ranged under its banners, had advanced to fight for the liberties and freedom of the world.

(To be continued.)



The Royal Indian Marine.

A History of the Government Sea Service in India from the earliest times. (Continued)

By Commander E. J. HEADLAM, R. I. M., F. R. G. S., F. R., MET. SOC.

It would be quite impossible to write any history of the sea services in India without mention of the Marine battalion which for over one hundred years was so closely connected with the naval forces under the Government of India.

The Marine battalion was raised in 1777 for the purpose of supplying marines for the ships of the Bombay Marine, the duties of whom had previously been carried out by sepoys drafted from various regiments. The following is the government order, authorising the establishment of the battalion.

“The Honourable the President and Council have been pleased to order that five hundred sepoys shall be raised as a corps for the service of the Marine, and the same encouragement given to them as to the other sepoys in the establishment. This corps to consist of five companies and each company to consist of one subadar, two jamadars, one European serjeant, six havildars six naiques, one fifer, two drummers and eighty five privates. They have also been pleased to appoint Captain James Jameson to the command of this corps, and Lieutenant William Hudson adjutant, also to add a black commandant, a European serjeant, a black adjutant (to be one of the jemadars) a black doctor, a fife major (one of the fifers) a drum major (one of the drummers), a head assistant apothecary, and two other sub assistants.”

In 1810 regulations were brought out which clearly defined the duties of the marines on board the ships. Previous to this the regulations had been very ambiguous and in consequence a considerable amount of friction and dissatisfaction, and ill feeling

The Royal Indian Marine.

had arisen between the two services. The regulations thus brought out were as follows:—

BOMBAY. CASTLE. *April 28th 1810.*

“The Honourable the Governor in Council has been pleased
“to order the following regulations to be framed for the Govern-
“ment and conduct of the marine sepoys, serving on board
“H.M. Company’s cruisers with the view to defining their duties,
“so as to prevent the recurrence of complaints between the two
“branches of the marine service.

“The sepoys are to assist in working the ship below, in
“hauling up and paying down cables, in hoisting in and out of
“boats, water and provisions, and in manning the tackle-falls on
“all occasions. 2nd. They are to draw and hand along water for
“the purpose of washing the ship, and are personally to clean out
“their own berths. 3rd. They are not to wash their clothes but
“upon days specifically approved by the regulations of the ship.
“4th. They are not to be compelled to go aloft, to scrub the
“decks, or perform any menial office. 5th. In case of misconduct,
“a non-commissioned officer to be confined, and (if the havildar)
“a naique, or (if the naique) a private is to be selected to perform
“his duty, till he can be tried, or upon due sense of his misconduct,
“it shall be deemed proper to release him. 6th. In no case is a
“non-commissioned officer to be struck, or to have corporal punish-
“ment. 7th. Privates are, for crimes of a serious nature, to be
“confined, till they can be brought to trial, but for offences of less
“importance, when absent from the presidency and the support
“of discipline requires immediate punishment, they are to be
“punished with a ‘rattan’ according to the degree of the offence,
“by the drummer or fifer, in presence of the detachment to whom
“the cause of the punishment is to be clearly explained, or for mis-
“conduct not demanding corporal punishment, they may have
“allotted to them the task of picking oakum or knotting yarns
“while their comrades are relieved from duty.”

On the outbreak of the first Burmese war 1824, a large squadron of the Bombay marine, was at once dispatched to co-operate with the naval squadron under Commodore Charles Grant. C. B. Naval Commander-in-Chief in India. The ships employed were The “Hastings,” 32 guns. Captain Barnes;

"Teignmouth," 16 guns, Captain Hardy; "Mercury," 14 guns, Captain Goodridge; "Jessy," 10 guns, Captain Poynton; "Research," 10 guns, Captain Crawford; "Thetis," 10 guns, Commander Middleton; "Ternate," 14 guns, Lieutenant Macdonald; "Vestal," 10 guns, Lieutenant J. W. Guy. In addition to these were a large number of small craft armed with 12 pounders and swivels, and for river work there was a flotilla of 20 rowing boats armed with one 18 pounder carronade, and a steam paddle vessel the "Diana."

It is interesting to note that the "Diana" was the first "steam vessel employed by the Indian government. Low in his "History of the Indian Navy" writes thus of her "The Hon. Company's steamer 'Diana' was undoubtedly the first vessel 'propelled by paddles that floated to the eastward of the Cape of Good Hope. She was launched on the 12th of July 1823, at 'Kyd's Dock Kidderpore, and the Calcutta 'John Bull' in 'announcing the event, added, with prophetic foresight 'She sits 'well on the water, and, is a great ornament to the river. We hail 'her as the harbinger of future vessels of her kind who will waft us 'to our native shores with speed and pleasure." Up to the time of her purchase by the Bengal Government, shortly before the Burmese war, she was managed by a Mr. Anderson, the engineer, who, like most of those who originate improvement, derived little personal advantage. The "Diana" was eminently useful on the Irrawaddy, and it is a remarkable fact that up to March 1831, when she came to Calcutta for repairs, the little steamer had run for eight years with only such occasional repairs to her engines as her engineers could give. The "Diana" was not a sea going ship, but her continued passages, at a period subsequent to the war, from port to port on the Tenasserim coast during the south west monsoon, proved her to be seaworthy.

Throughout the whole of the war in Burma until the conclusion of peace in 1826 the ships of the Bombay Marine were actively and continuously employed; taking part in all the actions and expeditions until the fall of Ava brought the war to an end. A small squadron was also employed in the operations on the Tenasserim coast including the capture of Tavoy, and the expedition to Ramnee and Cheduha.

The Royal Indian Marine.

A marine force consisting of* the "Vestal" 10 gun brig; the "Research" and Investigator"† surveying ships, fitted with 10 guns each, the 6 gun brigs "Helen," "Henry Meriton," "Planet," "Sophia" and "Assughus;" the "Trusty" ketch, 6 guns; and steam gun vessel "Pluto" 6 guns; ten pinnaces each carrying two guns, and eight divisions of gunboats, each division consisting of 10 gunboats, carrying one 12 pounder carronade each. The whole under the supreme command of Commodore John Hayes, were also employed during the war in co-operation with a military force under General Morrison, in the operations on the coast of Burma from Chittagong to Sandoway, and which resulted in the fall of Arracan. A flotilla of gunboats was also employed assisting the column under General Richards who was operating in Assam.

During the Burmese war the marine casualties were very heavy and included the death of Commander Middleton of the "Thetis," who died of wounds received at the first attack on Kemmendine, and Captain Barnes of the "Hastings," who died of dysentery. In addition to the heavy losses of killed and wounded, the deaths from disease, especially during the months of the south west monsoon were very heavy. At the conclusion of the war Commodore John Hayes was created a Knight and the Governor General in Council issued the following order.

"The conduct of that portion of the naval branch of the expedition which belongs to the East India Company, has been exemplary and conspicuous for gallantry and indefatigable exertion, and it has fully shared in all the honourable toils and well-earned triumphs of the land force. The Governor-General in Council experiences the most sensible gratification in offering to Commodore Hayes, to Captain Hardy, Senior Captain of the Bombay Marine, and to the several commanders and officers of the Bombay cruisers, which have been employed in the Irrawaddy, and to the officers in command of armed brigs and divisions

* Government orders dated January 3rd 1777.

† This was the first of three "Investigators" built for the Marine survey of India, the second was built in Bombay in 1881 and she in her turn was replaced by the present "Investigator," which was built by Messrs. Vickers, Sons and Maxim in 1907.

“ of gunboats, the cordial thanks of Government for their zealous
“ and meritorious services.

“ Although not commanding in person the Hon. Company’s
“ naval force in the Irrawaddy, Commodore Hayes has amply
“ entitled himself to the special notice and consideration of Gov-
“ ernment on this occasion, since it was mainly owing to his
“ professional and unremitting exertions, that the armed flotilla
“ from this port was so efficiently equipped, and thus enabled to
“ acquit itself in a manner which has repeatedly been honoured
“ with the approbation of His Excellency the Naval Comman-
“ der-in-Chief of His Majesty’s squadron in the East Indies, and
“ officers of the the Royal Navy, under whose orders they have
“ been employed in conjunction with the armed boats of his
“ Majesty’s ships.”

On the receipt of the news of the conclusion of the war, the following resolutions were passed in both houses of Parliament.

“ Resolved, nemine contradicte—That the thanks of this
“ House be given to the several captains and officers of His
“ Majesty’s and the East India Company’s naval forces, employed
“ in the late operations against Ava, for their skilful, gallant, and
“ meritorious exertions, which greatly contributed to the successful
“ issue of the war.” *

“ Resolved, nemine contradicte—That this House doth
highly approve and acknowledge the services of the seamen, and
marines serving on board the ships of His Majesty and the East
India Company employed in the late operations against Ava, and
that the same be signified to them by the captain of the several
ships, who are desired to thank them for their gallant be-
haviour.” †

Between the years 1823 and 1826 several vessels were built
in Bombay for the Bombay Marine, amongst which was the
“ Palinurus ” (named after the pilot of Æneas) an 8 gun brig ‡
which was employed for nearly 40 years, as a surveying vessel.
The “ Elphinstone sloop of war of 18 guns, 387 tons, “ Amherst ”

* House of Commons 8th of May 1827.

† House of Lords 8th of May 1827.

‡ In 1907 a second “ Palinurus ” of 400 tons was built by
Messrs Laird & Co of Liverpool also for the surveying service.

The Royal Indian Marine.

"Clive,"* and "Coote," sloops of war of 18 guns, and 420 tons. The naming of the "Amherst," "Hastings," "Teignmouth," "Mornington," "Auckland," "Elphinstone," "Clive," "Coote," after Governor-Generals and other officers of distinction in India, was a fashion in the service until the present day. In 1827 the Government purchased the "Enterprise"† a steamer of 500 tons, having two sixty horse power engines, with copper boilers extending across the ship, and seven furnaces, each seven feet in length; she was the first sea going steamer of the Bombay Marine, though previous to her arrival they had employed several river steamers.

From the years 1824 until 1830 when the title of the service was altered to the "Indian Navy" various alterations in conditions and regulations had been made and suggested, and in 1824 the retiring pensions were amended in the following government order.

Bombay Castle. September 30th 1824. "The Hon. the Governor in Council is pleased to publish for general information the following extract from H.M. Courts' despatch of the 20th of August, 1823 amending the regulation of the 1st of August 1798, for granting retiring pensions to the officers of the Marine.

"Para. 7. Being of opinion that it is desirable that the total amount of retiring allowance to your marine officers should be definitely fixed, we have with that view revised the regulations, and have resolved :—

"Para. 8. That the retiring pay to marine officers, who have actually served in India twenty two years or upwards, be as follows, viz: To the Master Attendant and the Commodore, after having served five years in either of these stations £450. To Captains of the first class, or senior Captains £360. To Captains of the second class £270. To First Lieutenants £180.

"Para 9. We have further resolved that marine officers retiring from ill health, after ten years service, before they have com-

* In 1882 The second "Clive" was built for the service, she was a steam troopship of 2723 tons.

† The second "Enterprise" which was station guard ship in Port Blair was wrecked with nearly all hands in the great cyclone of 1892.

“pleted that of twenty two years, be granted one half of the retiring allowance of their rank as specified in the last paragraph.”

In August 1820 the pensions of the junior Captains were raised to £293 and of First Lieutenants to £191.

In 1825 Captain Meriton who had been Superintendent since 1813 retired, and Captain Thomas Buchanan of the Bombay Marine was appointed in his place.

In 1827 a special General Court of Proprietors was held at the India House in Leadenhall Street under the presidency of Sir G. A. Robinson, Bart, for the purposes of inquiring into the conditions of the Bombay Marine, and Captain Maxwell, a distinguished officer of the Marine was appointed to represent the service.

On January 1st of this year previous to the sitting of the Court the strength of the Bombay Marine was shewn in the following tables.

BOMBAY MARINE, JANUARY 1ST 1827

<i>Description.</i>	<i>Name.</i>	<i>Guns.</i>
Ship	Hastings	32
Sloops of war	Elphinstone	18
" "	Coote	18
" "	Amherst	18
" "	Clive	18
" "	Ternate	14
" "	Benares	14
" "	Aurora	14
Brig	Antelope	14
"	Nantilus	14
"	Thetis	10
"	Euphrates	10
Surveying vessel	Discovery	6
" " " "	Palinurus	8
Schooner	Vigilant	6
" "	Zephyr	6

Also a large number of small craft.

The Royal Indian Marine.

The strength in officers and their pay was as follows:—

One Master Attendant on the Captains list 30,000 rupees per annum; one Commodore, 24,000 rupees per annum; eleven senior Captains, average pay 1,000 rupees per month; twelve junior Captains, 700 rupees per month; thirty First Lieutenants, drawing two rupees three annas a day when in command, or the allowance of their appointments, in addition to their pay of 150 rupees per month; twenty two Second Lieutenants drawing from 82 to 122 rupees per month; and forty midshipmen whose monthly pay was from 30 to 50 rupees per month.* Other appointments held by officers in the Marine and which carried additional pay were Superintendents, and Master Attendant of the harbour. The senior Captain also held the post of boat master and agent for transports, and up till 1832 the office of Deputy judge-advocate-general with a staff allowance of Rs. 200 per month was held by a senior Captain.

The discussion which was held by the Directors in London, had the effect of bringing to light the many disadvantages under which the officers and men were suffering, and showed how inadequately the ships were manned and maintained. It obtained for the officers relative rank with the Royal Navy, and laid before Parliament a scheme for martial law for the service, and it was decided that for the future the post of Superintendent should be held by a naval officer, with the rank of Major-General. The strength of the service was fixed at five Captains, nine Commanders, forty six Lieutenants, and sixty midshipmen. Three twenty four gun ships were to be built, and other smaller vessels, including one steamer. The pay of officers was also fixed at new rates. A warrant from the Admiralty was also obtained giving authority to the vessels of the Marine to fly the Union Jack and pennant. The following is the order granting relative rank, and the warrant for flying the Jack and pennant.

“At the Court of St. James the 30th of June 1827.

“Present, the King's Most Excellent Majesty in Council,

*Hist. of I. N. Low, Vol. 1. pp. 479

“Whereas, there was this day read at the Board a Memorial from His Royal Highness the Lord High Admiral, dated the 12th of June instant, in the words following, *viz.* :—

“Whereas in consequence of a communication with the Chairman and Deputy-Chairman of the East India Company, I am of opinion it may be expedient to confer on the officers of the Bombay Marine, within the limits of the East India Company’s charts, the privilege of taking rank agreeably to their several degrees with the officers of the Royal Navy, but under the condition, that all officers of any rank in the Royal Navy, shall have precedence of all the officers of the Bombay Marine of the same rank, and that the officers of neither service shall have any command whatsoever over the ships, officers, and men of the other service, unless under special orders to that effect from the respective governments. They have therefore, most humbly to submit to your Majesty, whether your Majesty will not be most graciously pleased, by your order in Council, to confer upon, and to grant to, the officers of the Bombay Marine the said relative rank and precedence, in conformity with the foregoing proposition.”

“His Majesty, having taken the said memorial into consideration, was pleased, by and with the advice of his Privy Council, to approve thereof, and to order as it is hereby ordered, that the officers of the Bombay Marine, within the limits of the East India Company’s charter, do take rank agreeably to their several degrees with the officers of the Royal Navy, under the restrictions and upon the conditions proposed in the said Memorial; and His Royal Highness the Lord High Admiral is to give the necessary directions herein accordingly.”

“By His Royal Highness the Lord High Admiral of the United Kingdom of Great Britain and Ireland, etc., etc. Whereas I have deemed it expedient that the ships of the Bombay Marine shall be granted the privilege of wearing, in addition to the Red Ensign which all ships belonging to His Majesty’s subjects shall legally wear, the Union Jack and a long pennant, having St. George’s Cross on a white field in the upper part next the mast, with a red fly; I do, therefore, by virtue of the power invested in me, hereby warrant and authorise the

The Royal Indian Marine.

"Union Jack and pennant above described, being worn on board
"the ships of the Bombay Marine accordingly."

Captain Sir Charles Malcolm, C.B, R.N. (the brother of the then Governor of Bombay) was appointed as Superintendent in November 1827. Captain Buchanan of the Bombay Marine being granted a pension of £800 a year in consideration of his having to resign his appointment. In 1829 the long expected provisions for bringing martial law were issued, and caused the greatest dissatisfaction throughout, as it was felt that the service was placed in an even more anomolous position than before, the officers being given both naval and military commissions, and the service being formed into a "Marine Corps" with a Superintendent or Major General at its head, it was impossible to tell whether the officers or men became Navy, Army or Marine;

The following are the extraordinary regulations on martial law issued from Bombay Castle, and they remained in force until 1847 when the title of Superintendent was changed to that of Commander-in-Chief, flying the broad pennant as a first class Commodore with headquarters at Bombay.

BOMBAY CASTLE, *April 3. 1829.*

"The following extract of a letter from the Hon: The Court
"of Directors in the Marine and Forest Department, dated the 10th
"of September, 1828, together with the resolution of Council
"in the same department of the 24th. ult, are published in General
"orders:—

"*Para 2.* We have the satisfaction to acquaint you, in
"reference to the expectation expressed in our despatch dated
"31st. of October, 1827. Paragraphs 6 to 7, that an act has
"recently been passed extending to the Bombay Marine the
"provisions of the 4, Geo. IV. cap. 18, being the law which
"regulates the company's army.

"*Para 3.*—Six copies of the Act accompany this despatch;
"and in order that the corps may have the benefit of it without
"delay, we desire that you will forthwith embody its officers into
"a regiment, to be called the Marine Corps, under the command
"of the Superintendent, with the rank of Major-General, in which
"corps you will invite the petty officers and seamen to enlist.

“*Para 4.*—The military commissions of the officers are to be of the ranks to which they are respectively entitled under our orders dated the 1st of August 1798, which fixed the rank the officers of the Marine were to enjoy respectively with the officers of the Army, and the dates of the military commissions are to correspond with those of the marine commissions.

“*Para 5.*—You will cause it to be distinctly understood by the Superintendent and all the officers under his command that the marine officers are not, in virtue of their military commissions, to exercise any interference, nor to possess any claim or right to any advantages which may be exclusively enjoyed by the Army, nor to receive any addition whatever to their allowances.

“*Para 6.*—That there may be no misunderstanding regarding the nature of the commission, we have caused a form to be prepared by our law officers, which is forwarded in the packet for your guidance.

“*Para 7.*—We further desire that no fees be taken upon the commissions to be granted to the officers of the Bombay Marine, as officers of our Army.

“*Para 8.*—You will observe that the Act of 4, Geo. IV, by the provisions which the Marine will hereafter be governed requires a larger number of officers to constitute courts martial, than it will be practicable to collect from the limited number of officers belonging to the Marine; the deficiency must in every case be supplied from among officers of the Army, who are not to derive any pecuniary advantage from the performance of that service. You will at the same time perceive, in the Act. 4. Geo. IV., cap. 81, sec 30, that the appointments of courts-martial must in all cases, be in the officers commanding His Majesty's forces.”

On taking over the duties of Superintendent Sir Charles Malcolm introduced many much needed reforms, chief amongst which were regulations determining the number of officers for each ship, and the introduction of a regular commissioned class of purser, who were to enter the service as Captain's clerks. And in July 1828 the following general regulations in regard to uniforms were issued, so as to assimilate the dress more to that of the Royal Navy.

"Captains above three years, coat, blue cloth, blue stand
 "up collar, sloped in the front, one and a half inch gold lace
 "round the top and front, a slashed sleeve with blue three-pointed
 "flap, three buttons and holes, blue cuff, one and a-half inch gold
 "lace round the top and down the front edge, pocket flaps with
 "three points, two buttons, skirts lined white kerseymere, two rows
 "of buttons in the front, ten buttons in each row, the two rows
 "to be three inches apart, from the front of the button-hole to
 "the centre of the button, the skirt to begin at one sixth of the
 "circumference from the front edge, two buttons on the hips and
 "two on the bottom of the plaits. The bottom to be raised, gilt, one
 "inch in diameter with a round rim, within the rim an anchor and
 "a cable, above the anchor a lion rampant supporting the crown.
 "Two gold naval epaulettes, with forty bullions each, on the strap
 "an anchor and cable two inches long, above a lion rampant sup-
 "porting the crown, one and a half inches in height, embroidered.
 "Waistcoat, single breasted white kerseymere, jean or linen, nine
 "buttons of half inch diameter, same pattern as on coat. Trousers,
 "white jean or linen. When blue cloth trousers are worn, to have
 "gold lace down the outside seam, same width as on the coat, to be
 "worn over short boots. Cravat or stock, black silk. Hat, cocked,
 "the flaps ten inches in the back, eight and a half inches in the
 "front, six inches at each corner, bound with black silk, two and a
 "half inches wide, showing one inch and a quarter on each side,
 "with a black cockade, six inches wide, looped with four good
 "bullions three and a half of inches wide, the two centre
 "twisted with a button of the same size and pattern as that of the
 "coat, tassels with five gold and blue silk bullions each. Sword
 "and scabbard, blade the same as the regulation for the Infantry,
 "with naval handle, substituting the lion for the crown. Belt
 "blue silk tape, two inches width, ornaments plain gilt,—clasp
 "plain square, gilt with a circle wreath, within the wreath, the
 "anchor and cable, with the lion above, of silver. Knot, blue
 "and gold rope, twenty-three inches long, with blue and gold vellum
 "basket work head, and twelve gold bullions; a piece of the same
 "sort of cord fourteen inches fixed to the hilt."

"Captains under three years—The same as above, epaulettes
 "without the anchor. Commander, The same epaulettes plain.

“Lieutenant.—The same, with one inch gold lace, one epaulette on the right shoulder. Hat, loop, two gold bullions twisted. Pursers—same, without the lace on each side the collar, two anchors and cables across, saltier wise, embroidered in gold. Hat, cocked, the same, without the gold bullion, loop to be of black silk, twisted.

“Midshipmen.—Coat, blue cloth, single breasted (A. D. C. cut) ten buttons on the front, three on the cuff, four on the skirt lining white silk, white pieces of kerseymere on the collar, three quarters of an inch width, three inches long, twisted button-hole, with a button. Waistcoat, trousers, cravat or stock, cocked hat, and swords the same as lieutenants—dirks may be worn. Undress coat, blue cloth, plain round collar, with half turned lappets, ten buttons on each side, three buttons on the cuff, four on the skirt, lined with white silk, with the epaulettes of their rank.

“Undress.—Officers when on leave in the neighbourhood of their ships, or on such duty as in the opinion of their immediate commanding officer, or of the senior officers on the spot, do not require them to appear in the regular uniforms above described, may wear in lieu thereof, a short blue single breasted great coat, plain stand up collar, sloped front and appropriate buttons, gold lace strap, with or without the epaulettes. A round jacket, stand up collar, sloped front, may be worn of either cloth, silk, or camblet of the Navy blue (no other colour), nine buttons on the breast, gold lace strap the same as on the coat, epaulettes are not to be worn, lining, white silk. A round blue cloth cap, with cap, band of gold naval lace, two inches width (except midshipmen,) who are to wear a worked black silk band, the same pattern and breadth of the lace, crown of the cap twelve inches in diameter. Epaulettes, lace, button, and ornaments, naval pattern, having the lion instead of the crown. Patterns or drawings, of each of the before mentioned articles of dress, are to be seen at the Superintendent's office, and it is directed that no article shall after this date, be made of any other pattern. Articles which have been already made of a different pattern to the foregoing, may, however, be worn till the 1st of June 1829.”

Soon after the new regulations for improving the service had come into force, the Government decided to inaugurate a regular

The Royal Indian Marine.

packet service between Bombay and Cossier, carrying passengers and mails. This innovation caused considerable dissatisfaction, as it was considered to have a derogatory effect upon the status of the service which had so recently been placed upon a more satisfactory basis. About the same time Lord William Bentinck, the new Governor-General, who had been reducing expenses in all departments, assembled a finance committee in Calcutta under the presidency of the late Right Hon: Holt Mackenzie to enquire into the whole question of the service. The result of this Committee was a suggestion to abolish the Marine altogether, and the employment of a squadron from the Royal Navy instead. The Government however refused to consider the suggestion, rightly deeming it impossible for a country with the extensive coast line of British India to be without a sea service of its own, and on the 1st of May 1830 the claims of the Bombay Marine to be considered the Navy of India were officially recognised in the following Government order:—

“Bombay Castle, May 1st 1830.”

“In accordance with a communication from the Hon. the Court of Directors, the H. M. the Governor in Council is pleased to announce, that the Bombay Marine, will henceforward be denominated the “Indian Navy.”

The following comprised the Marine board at the time:—
Captain Sir Charles Malcolm.

	Kt, C. B., R. N.,	Superintendent.
„ „	Richard Morgan	Master Attendant.
„ „	William Graham	Boat Master.
Lieutenant John Houghton		Secretary and accountant.
Captain George Simpson		Marine storekeeper.
William C. Bruce, Esq.		Marine Paymaster.
Lieutenant Roper Cogan		{ First assistant to the Superintendent.

The Master Attendant at Calcutta was Captain Sir John Hayes, Kt, and the Commodore in the Persian Gulf was Captain Wm. S. Collinson who flew his broad pennant in the “Ternate”.

On the 20th. March 1830 The H.M. Company's steamer “Hugh Lindsay” was despatched from Bombay under the command of Commander John Wilson for the purpose of

ascertaining the practibility of establishing the Red Sea route as the method of transporting mails from Europe. Commander Wilson in a pamphlet which he had issued wrote "I was the "staunch asserter that the Red Sea route was the one which must "become, through the means of steam, the high road to India; "and I was stimulated by a desire to be the first steam navigator "of the Red Sea." Lieutenant Low, of the Indian Navy gives the following account of this first voyage in the Red Sea undertaken by Commander Wilson. "The gallant officer "performed the trip with signal success, and, when the disadvantages under which he laboured are taken into consideration "the achievement may be regarded as one of the most remarkable "on record." This will be readily conceded, when we consider the conditions of the experiment. The "Hugh Lindsay" was a steamer of only 411 tons, with two eighty horse power engines, built to carry five and a-half days consumption of coal, and drawing eleven and a half feet of water, while she was required to perform a voyage of 3,000 miles, of which 1,041 were across the Indian Ocean to the first coaling station at Aden.

To enable her to effect this long flight, she took on board sufficient coal for eleven days, for which purpose more than two thirds of the space abaft, intended for accomodation, and also half of the forehold, were filled with coal; this, together with stores and provisions for the voyage to Suez and back, no less a distance than 6,000 miles, increased her draught of water to thirteen and a half feet, and it is certain her safety would have been seriously imperilled had she encountered bad weather. Previous to undertaking the voyage, a collier brig, laden with 600 tons of coal, under convoy of the "Thetis," had been despatched to the Red Sea, so that a supply was ready stored at Aden, Jiddah and Suez.

The experiment was a triumphant success; Aden was reached on the 31st. of March, the whole distance having been covered under steam alone, and the "Hugh Lindsay" arrived with only six hours consumption of coal in her bunkers. Commander Wilson called at Mocha to deliver despatches, and at Jiddah for coal, and arrived at Suez on the 22nd. of April, having been

The Royal Indian Marine.

thirty-two days and sixteen hours including stoppages. From Suez he forwarded the despatches and the mail of three hundred and six letters, together with a despatch to the India House reporting his arrival, and enclosing a copy of his log, which was printed in the appendix to the evidence taken before the Parliamentary Committee of 1834. On his return voyage Commander Wilson called at Cossier, Jiddah, and Mocha, and reached Bombay on the 29th. of May. It appears from the "Hugh Lindsay's" log, that the voyage to Suez was accomplished in twenty one days and eight hours, and the return to Bombay in nineteen days and fourteen hours. The total time occupied in the passage there and back was seventy days, but the preceding was the time she was actually under steam, during which she traversed 5,928 miles, being at the average speed of somewhat less than six miles an hour; a surprising result, when we consider that she was two feet deeper in the water than was intended by her builder, and consequently was much out of trim. For this achievement Commander Wilson received the thanks of the Bombay Government.

Perhaps the most extraordinary incident in the whole annals of the Marine occurred in the year 1831, when Commander John Croft Hawkins, one of the most able officers in the service was tried by court martial at Bombay, on a charge of piracy and slave dealing. Commander Hawkins who was in command of the "Clive" had been despatched on a mission to the east coast of Africa, to report on the harbours of Socotra, and also to endeavour to enlist the natives of those ports as seamen in the Marine to fill vacancies, owing to a deficiency in European seamen and lascars. The following is a copy of the sailing orders issued by Sir Charles Malcolm to Commander Hawkins.

"It having been deemed expedient by this government, as per enclosed copy of a letter from Mr. Secretary Willoughby, under date of the 10th of December 1829, to raise seamen for the Honourable Company's Marine from the coast of Africa, and the adjacent islands, you are (after having performed the instructions contained in my letter* No. 20 of 1830 of this date) directed to

* *Ordering the "Clive" to proceed to Bassadore in the Persian Gulf to land stores.*

“proceed to the Coast of Africa and islands in its vicinity for that purpose, and adopt the best means of enlisting for the service as many able bodied men as you can, in age from twelve to eighteen, free from all disease and bodily infirmity, and of that compact system best calculated for seamen.

“You are authorised to employ (on reasonable terms) an agent to assist you in this duty, and to give these lads the bounty agreeable to the regulations, or a reasonable sum more should that not be thought a sufficient inducement. You will rate these lads as marine boys on board your ship, and pay the strictest attention to their morals, and the speedy attainment of their profession; and you will perform this duty with the greatest delicacy and consideration, and avoid as much as possible giving umbrage to the Mahomedan government, as upon the success of this measure, the efficiency of the Hon. Company's Marine Service will materially depend.

“You will keep a private journal of every transaction that occurs during your cruise, which will be forwarded to me on your return, with a report on what you consider the best means of engaging these lads for the service. You will visit the islands of Socotra going and coming and report on the anchorage at both sides of the island, with such facilities or advantages as it may possess for forming a coal depot on it for the steam navigation between this and the Red Sea.

“You are to engage no more than sixty of the boys, as that number will be sufficient for the present.

“You are to instruct Lieutenant Peters (in conjunction with the Master) to make a survey of such ports and harbours at Socotra and other places, as may be useful to navigation in general, but to detain the vessel as little as possible from the more important duties on which you are engaged.”

Commander Hawkins sailed from Bombay on January 5th. 1830 and having visited the Persian Gulf in accordance with his sailing orders, he sailed for Socotra and the east coast of Africa to carry out the main purpose of the cruise and returned to Bombay on the 22nd. June with 30 negro boys which he had shipped for service in the Marine. On the 26th. of July

The Royal Indian Marine.

Commander Hawkins was informed by Sir Charles Malcolm that he was to be prosecuted by the Supreme Court on a charge of slave dealing and piracy; this was the first warning of any sort which he had received intimating that there had been any illegality in his conduct in shipping the negro boys, and nothing whatever had been said when the Superintendent inspected the ship and the boys shortly after their return to Bombay. The only way in which he had at all exceeded his instructions was through engaging some of the boys at a younger age than was laid down in his orders. His reason for engaging the younger boys was that they had been so very eager to go with their elder brothers and friends that he had not had the heart to refuse them, and his chief mistake lay in handing over the money to their parents or guardians instead of to the boys themselves and it was upon these errors that the charges were passed. The trial which was presided over by Sir John Awdry lasted three days and the indictment contained four counts, the most important of which was "for conveying from a certain place off the island of "Zanzibar to Bombay, certain persons (here were given the names "of the boys) for the purpose of the persons conveyed being treated "as slaves." Although almost the whole of the evidence tended to prove that the boys were treated in precisely the same manner as English boys on board ship, and were perfectly happy and contented with their lot the jury found a verdict of guilty, and Commander Hawkins was condemned to be transported to the east coast of New South Wales for the term of seven years.

The greatest indignation was felt at the finding of the court which resulted in the ruin and disgrace of a distinguished officer, and the general feeling at the time was that he had been made a scapegoat of, to shield the Government in India, strong feeling having arisen at home against this method of engaging boys for the Marine. That the highest authorities did not think Commander Hawkins was culpable is clearly shown in the following paragraph in Low's History of the Indian Navy.

"Lord Close the Governor of Bombay, tried to induce Commander Hawkins to remain in prison at Bombay until the King's "pleasure was known as to the granting of a free pardon for which "application would be made to his Majesty ; his lordship sent an

“aide-de-camp to the unfortunate officer, and, after the latter had decided to undergo the sentence, he sent him again with a message that he should sail in a ship of the Indian Navy, and that a brother officer should be his gaoler, with instructions to treat him as an officer and a gentleman. Accordingly Commander Hawkins sailed for Sydney on May 15th. 1831, on board the H. M. Company's sloop of war “Coote” Commander Pepper. The “Coote” touched at Madras, where Commanders Pepper and Hawkins were feted for three days by the community, and thence she proceeded to Batavia, where Commander Pepper found despatches of importance awaiting to be forwarded by the first ship to England. The Captain of the “Coote” said to his charge, here's a glorious opportunity to go straight to England, and, though Commander Hawkins was averse to this course, fearing that it might be considered as done at his instance, and thus prejudice his case, the former took upon himself the responsibility, and, accordingly, to England the “Coote” proceeded. Commander Pepper had with him a copy of the petition to the King sent by Lord Close, and signed largely by the officers of the Indian Navy, and of the Military and Civil Services, and also the letter from his lordship to the Governor of Sydney requesting that Commander Hawkins might be treated as a gentleman, and with these he hastened up to London.

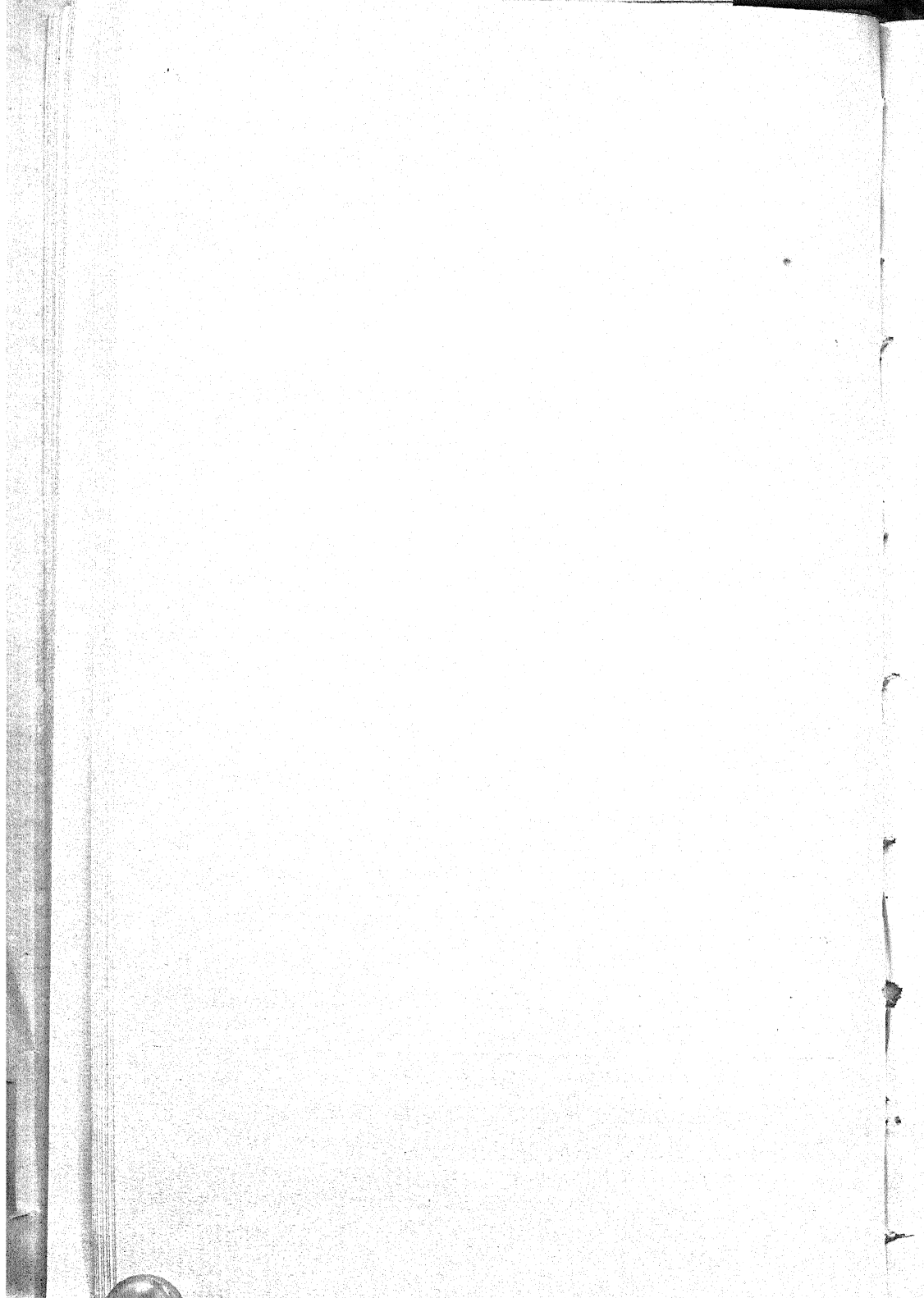
“Lord Melville, to whom he showed them, immediately proceeded to Windsor, and obtained an interview with the King, who promised to grant Commander Hawkins a free pardon,* and graciously commanded that he should appear at the next levee.†

“Commander Hawkins was, on his return to India fully reinstated, his reinstatement being antedated to the date of the first day of his trial.

* This document was, addressed to the Governor-General and was dated from St. Jame's Palace on the 9th of November 1831.

† *Hist. of I. N. Low.* pp. 517.

(to be continued).



Hindustani on the Voyage.

BY CONDUCTOR H. C. PARKS,
India Miscellaneous List.

There are many handbooks and manuals on Hindustani. But is there one devoted specially to the outward voyage and written expressly with the twofold object of ensuring that by the time the diligent student landed he would not only possess a working knowledge of the language, but would be well posted in all the common things of India as well? Such a book would be immensely popular if it really did accomplish its purpose, and enabled the traveller to speak on landing in the country. Its preparation, however, would not be such an easy matter as at first sight appears, and the danger would be of attempting too much. There would have to be a short lesson—a page—for each day of the voyage, set out in the most interesting manner possible. Long columns of dry words, or disconnected phrases, would have to be avoided; “niceties” would have to be neglected, and grammar reduced to an absolute minimum, if not banished altogether. The voyage is too short for more than a modest acquaintance with every-day colloquial Hindustani.

But what is really wanted is an authoritative work on these lines—for the matter to be taken up officially; and to show how this might be done the following ideas and simple suggestions for a scheme are set forth. In this short paper the question is dealt with under three main headings, namely, (i) the need for Hindustani; (ii) the outward voyage for laying a solid foundation in the language; and (iii) the means for ensuring that foundation.

(i) The Need for Hindustani.

Apart from the fact that a knowledge of the language is compulsory for the Indian Army and the Indian Civil Service, it is surely a moral obligation on every patriotic Briton to learn the tongue most prevalent in the British Empire. (And here it may be observed, parenthetically, that Hindustani is really an

international language, having grown into use as such from the time of the Mohamedan empire, when a large number of Persian and Arabic words, known to the foreign invaders, first began to be introduced into Hindi, as a means of communication between the foreign soldiers and the former inhabitants of the country, the grammar and structure of the simplest form of Hindi being retained.)

The population of our Empire exceeds four hundred million souls: without India, it is scarcely one hundred million. Of the three hundred millions—the vast majority—there are comparatively few who do not speak Hindustani, not as their own language, but in addition to their mother tongue. (The section of the population which has no other language but Hindustani is excluded.) The Hindus, for example, amounting to about two-thirds of the inhabitants, speak generally some form of Hindi, or some kindred tongue, as their own language, but there are not many who do not know Hindustani also.

If, then, the Indians themselves have the energy and patience to acquire a common vehicle of expression, it behoves Britons—although not so favourably placed—not to show to disadvantage and remain ignorant of what is so universally known. Hindustani, it may be well to remember, is not nearly so difficult as it is represented. An artificial language worth the name, and constructed on an international basis, must, of a necessity, be easier than any national tongue: hence the few irregularities in Hindustani. But many of our countrymen, coming to India with an erroneous notion of the difficulty of the language, never even make an attempt to learn it. Difference of speech is a cause of antipathy and even hatred between people. Not being understood we keep aloof, and soon learn to dislike the strange sound of another's tongue. Most of the regrettable affrays between British soldiers and Indians may be traced to this cause alone. The writer once saw an unfortunate servant beaten for saying *laya* (have brought), in answer to a question, the word being mistaken for "liar"! The more the knowledge of Hindustani is diffused among all ranks the greater the harmony between rulers and ruled. As for the benefit of such knowledge on active

service, it is easy to conceive situations when it would assume the gravest importance.

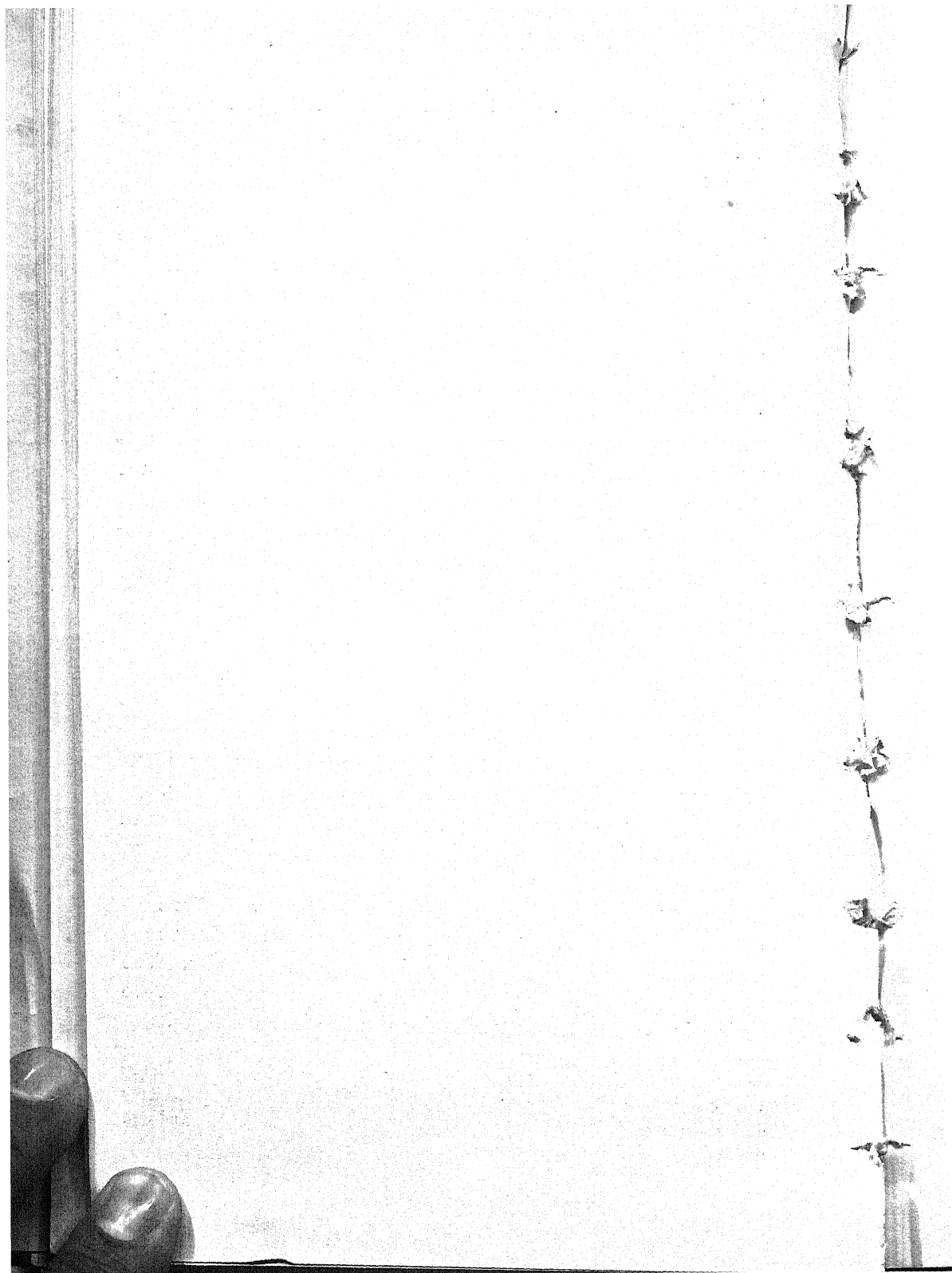
Finally, our position in India is such that it were far better that we should speak even bad Hindustani than that we should sanction the use of vile English.

(ii) *The Outward Voyage for laying a solid Foundation in the Language.*

That the three weeks' voyage to India drag on interminably is universally confessed. Life on a transport seems at a standstill, and we are at our wits end for diversion; for a man cannot always be playing "deck quoits," or practising for the next saloon concert. And there is little else but an eternal tramp up and down the deck. As it is, many young officers, tired of the mental inactivity before Port Said is reached, try to fill some of the vacant hours by an endeavour to "pick up" from the ship's "boys," or as best they can, a smattering of Hindustani. But these officers, it would be found, are on their way to join appointments in the Indian Army, in which the language is a *sine qua non*. Others have no such incentive to study. But how much more profitably could the tedious days be spent if arrangements were made to hold Hindustani classes, with an organised system of instruction, and a definite result to be attained before disembarkation? The idea would be welcomed on every deck; it would provide an interest at a time when mind, body and soul cried out for something to do. The outward voyage, therefore, is a right and proper time to propose for the study of the language and ways of the country to which the young soldiers are proceeding. And more could be accomplished in the few short weeks to ensure a good grounding in essentials—to put the student on the right lines—than in as many months in cantonments. To the majority of non-commissioned officers and men it would be "the only time you would catch them in the humour."

(iii) *The Means for ensuring that Foundation.*

Briefly, the requirements are :—morning and evening classes; a few lectures, printed "lessons," and instructors. The classes



Quarterly Summary of Military News and Items of Interest.

INDIA.

Appointments and Promotions. Lieutenant Colonel J. K. Tod, 7th Lancers, was appointed General Staff Officer, 1st Grade. Army Headquarters vice Colonel A. S. Cobbe, V. C., D. S. O., A. D. C., 32nd Sikh Pioneers, with effect from 1st April 1914.

General. Orders have been issued notifying that the war service of officers and others engaged in the operations in the Abor country in 1911-12 will be recorded in the Army List and Records of Service as follows:—

“Operations in the Abor Country, 1911-12”.

It has been decided by the Secretary of State for India that officers of the Royal Engineers who were commissioned after the 20th February 1886, and have elected for continuous Indian service, shall be entitled (so long as they do not exercise the power they possess of cancelling their election) to count 5 years British service for pension. This decision has effect from the 2nd November 1913, but does not apply to officers who retired from the service before that date.

It has been ruled that officers of the Indian service who are approaching the age for compulsory retirement shall not be granted leave beyond the day preceding the date from which retirement must take place. Officers granted leave out of India in these circumstances are required to apply at the India Office for instructions regarding their retirement.

The Alexandra Dock at Bombay was opened by the Viceroy on March 20th. The dock has a water area of nearly 50 acres and a mean depth of 37 feet. Within the dock are 17 berths, 500 feet in length.

The wireless stations at Peshawar and Quetta have now been completed and are in working order.

The adoption by British infantry battalions in India of a four company organization for training was ordered in India Army Orders of the 16th March.

In continuation of the revised rules for the command of Indian Cavalry and Infantry units which came into force on 9th November 1913 it has been approved that Commandants of Cavalry regiments appointed before that date, should be permitted, should they so desire, to vacate command of their regiments on attaining the age of 50 years before completion of their tenure.

Sanction has been given to the grant to the permanent incumbents of certain selected appointments of advances for the purchase of motor cars.

The concession of travelling on Form E. in a first class carriage on payment of second class fare, which is at present enjoyed by captains and subalterns doing duty with their units has been extended to officers of similar ranks of the Indian Medical Service serving with regimental units, on all occasions when they travel at their own expense on the following railways:—

Madras and Southern Mahratta.

North Western.

Oudh and Rohilkand.

Eastern Bengal.

Bengal-Nagpur.

Great Indian Peninsula.

The following training will be carried out next cold weather:—

The 1st and 2nd Division and 1st and 2nd Cavalry Brigades will be concentrated for inter-divisional manoeuvres.

The 5th and 6th Divisions with a proportion of cavalry will be concentrated for inter-divisional manoeuvres.

In other Divisions training will be confined to individual and collective training up to and including brigade training.

A refresher course for senior officers will be held at the Staff College, Quetta, commencing on 23rd September next.

The course, which will last about 10 days, will consist of lectures to be followed by a Staff Tour.

The following officers have been selected to attend and have been furnished with a syllabus.

Two General Officers Commanding Divisions.
Four General Officers Commanding Brigades.
Four General Staff Officers, 1st Grade.
Four Assistant Quartermasters General.

ROYAL INDIAN MARINE.

Captain Walter Lumsden, C.V.O., R.N., has been granted extension of service in his appointment as Director of the Royal Indian Marine, with effect from the 17th March 1914.

Captain Walter Lumsden, C.V.O., R.N., having proceeded on 7 months and 2 days combined leave, with effect from the 19th April 1914, Captain G. S. Hewett, R.I.M., Deputy Director Royal Indian Marine has been appointed to officiate as Director Royal Indian Marine during the period of Captain Lumsden's absence.

The Royal Indian Marine ships have been employed as follows during the last quarter :—

Hardinge.—Carrying out trooping programme

Dufferin.— Do. do.

Northbrooke.—Continuing station ship duties, Port Blair.

Mayo.—Continuing her duties as tender to the lighthouses and lightships on the coast of Burma.

Dalhousie.—Station ship at Aden.

Investigator.—Returned to Bombay for annual repairs on 7th May 1914 after completion of survey programme.

Palinurus.—Returned to Bombay for annual repairs on 7th May 1914 after completion of survey programme.

Minto.—At Bombay for annual refit till first week in June, resuming her duties in the Persian Gulf thereafter.

Lawrence.—In Persian Gulf at the disposal of the British Resident, and tending the lighthouses and lightships in the Persian Gulf.

A new lighthouse tender, with geared turbine engines, for the Persian Gulf lights and buoys is at present under construction in Scotland with Messrs. William Beardmore and Company, Limited, and is expected to arrive in Bombay next September.

5th Divison.—Major General G. V. Kemball, C.B., D.S.O., arrived from home and took over command of the Jhansi

Brigade on the 10th April vice Major General C. V. F. Townsend, C.B., D.S.O., transferred to the Rawalpindi Infantry Brigade.

The 3rd Brahmans arrived at Nowgong from Singapore on the 18th April taking the place of the 5th Light Infantry. The 10th Jats arrived at Jhansi from Hyderabad, Sind, on the 10th April in relief of the 30th Punjabis.

The scarcity of water at Jhansi and Nowgong has been acute. Partial alleviation has been achieved by a temporary pipe line which has been laid from Puhuj reservoir into the cantonment reservoir whence water is distributed by carts.

Burma.—Manoeuvres were carried out in the Henzada District by the headquarters and 450 men of the 1st Royal Munster Fusiliers. After a three days voyage from Rangoon the troops disembarked at Zalun, their arrival creating a vast amount of interest amongst the local inhabitants. Most of the latter had probably not previously seen a British soldier and hundreds turned out on the river bank to gaze at him. Friendly relations were maintained between the population and the troops during the operations.

Baluchistan.—The Government of India has sanctioned the increase of the Mekran Levy Corps by 1 British officer, 100 infantry and 50 camel sowars. This force is intended for employment at Kalat and Mastung.

The Zhob Militia were recently rearmed with the single shot M. L. E. rifle.

The replacement of the Martini Henry rifles in possession of the Mekran Levy Corps by single shot M. L. E. rifles has also been sanctioned.

Gilgit.—At the annual gathering of the British officers, Kashmir State officials, chiefs and headmen of the Gilgit Agency the turn out of the 4 companies of the newly formed corps of Gilgit Scouts and their smartness caused a great impression. It may be safely assumed that there will be no difficulty in raising the remaining 4 companies of the battalion.

The Nagar Scouts completed their first fortnight's training at Namad and marched into Gilgit on April 15th.

Buner.—The Bunerwals have paid up their fines in full and the troops have been withdrawn from Rustam.

The Hindustani fanatics, who will be remembered as having displayed such fine fighting qualities in the Umbeyla Campaign, are still a power in Buner. They number some 900 or 1,000 fighting men under their chief Mir Badshah. They are mostly armed with Martini-Henry rifles, made in the Kohat pass, but they have also a few Lee-Metfords. One hundred and twenty of them are mounted, and they keep up about 100 mules for transport. They have some old and useless guns as artillery and do a parade of sorts occasionally.

On the 14th April, a *Durbar* was held at Amandara by the Chief Commissioner, North West Frontier Province, at which a large number of officials and *Durbaris* from British India attended. From among the local notables and people, the Nawab of Dir, his two sons, the Mianguls of Swat and the *Jirga* of Lower Swat and Sam Ranizai, Adinzai, Badwan and Barangola were present. After speeches had been made and *khillats* distributed, the Chief Commissioner formally opened the new Swat River Canal. The antagonism to the scheme on the part of the tribesmen of Lower Swat, which was at one time so marked, has now practically disappeared.

Waziristan.—On April 28th some Mahsuds made an attack on a party of the 18th Infantry proceeding to piquet the road between Khajuri Kach, and Nili Kach, for the fortnightly convoy. The convoy was stopped and returned to Nili Kach.

Murder of British Officers.—At Tank on the evening of 12th April a Mahsud orderly of Major Dodd attacked and wounded with a Mauser rifle with soft nosed ammunition Major Dodd and Captain Brown of the South Waziristan Militia. In the apprehension of the murderer Lieutenant Hickie, R. A., and 2 sepoy of the Frontier Constabulary were killed and a third sepoy and two railway chokidars were wounded. The murderer was shot dead by the Frontier Constabulary. Major Dodd, Captain Brown and the wounded sepoy have succumbed to their wounds. The brother of the murderer of the three officers and other clansmen of his have been arrested at Sarwakai and 23,000, rupees due to the Mahsuds on account of allowances for the past year have been withheld.

From reports received it appears that the retention of the Rs. 250 due to a cousin of the murderer pending the return of some stolen property, was really the direct cause of the outrage, but the complicity of other members of the tribe is under investigation.

Raids by Mahsuds have been frequent of late but the raiders have suffered several casualties.

Mr. T. B. Copeland, Deputy Commissioner, Dera-Ismail Khan has succeeded the late Major Dodd as Political Agent, Wano. The appointments of the Officer Commanding Southern Waziristan Militia and Political Agent, Southern Waziristan, are thus separated.

Afghanistan—Sirdar Ayub Khan, the Commander at the battle of Maiwand in 1880, died at Lahore on April 6th.

Khost.—In March last the Government of India demanded the arrest and deportation of the Khost outlaws, the return without ransom of the kidnapped Hindu prisoners and the repayment of ransom recently paid for the release of a kidnapped Hindu woman. Pending compliance with these demands some 500 Khostwals found in British territory were arrested.

In consequence of this action all the Hindu captives have been sent into British territory and the arrested Khostwals have now been released.

Arabia.—Umm-ul-Gaiwain was bombarded by H. M. S. "Fox" in March, the Shaikh having refused payment of Rs. 40,000 due from him on account of compensation and fine. When the towers had been half knocked down the Shaikh submitted and paid up the demands in full.

The Imam again rose against the Sultan of Masqat in March and captured the town of Natchl. H. M. S. "Dartmouth" proceeded to Barkah to protect British subjects. On April 10th, as the rebels had captured an outlying fort and were threatening the town of Barkah, H. M. S. "Fox" bombarded the fort and expelled the rebels. On April 13th the rebels re-occupied the position, and, though again expelled by H. M. S. "Miner" on April 14th, they besieged the Sultan's troops, who had occupied the ruined fort, the following day. They were again shelled and forced to retire but remained in the neighbourhood of the

town for some days. On April 14th H. M. S. "Dartmouth," after a warning, fired on the town of Garyat, which had been taken possession of by the rebels, and demolished a fort of which they were in occupation. The rebels subsequently retired into the interior much disheartened and Imam, the leader, is now reported to be trying to make peace with the Sultan. The situation in Masqat is now much easier in consequence.

China.—A wireless telegraph station has just been erected north of Kalgan. The station is of the most modern type and no difficulty has been found in communicating with Peking and Tsintan. The staff are all Chinese. Another station will shortly be erected at Woosung and others have been sanctioned for more southerly districts.

It is reported in the press that there is a strong movement in favour of the proposal to rebuild the Taku Forts.

Japan :—A military aerodrome has been created at Tokorasawra two hours distant from Tokio. Having purchased some fifteen aeroplanes in foreign countries, the military authorities are proceeding with the manufacture of aircraft in home arsenals.

Persia :—The Turco-Persian Boundary Commission was expected to be at Gar-i-Shirin by May 15th. Captain Dyer, 93rd Infantry, has been attached to the Mission to manage the Supply and Transport arrangements.

Elections for the Majlis were held at Tehran in February. The result afforded a satisfactory indication of the growing sobriety of public opinion in the capital. Most of the 12 deputies were moderates, there was only one democrat, and among the remainder the ecclesiastical element was strongly represented.

According to the press Persia is again approaching a financial crisis there being a deficit of about £4,000,000. It was proposed to make good part of the deficit by the imposition of taxes on real property in towns, professions, and tobacco, and by the stricter enforcement of taxes on opium and land.

The Gendarmerie have had a good deal of fighting lately and, in spite of the loss of several Swedish officers, have on the whole done well.

The Gendarmerie for the ensuing year is to be organized in headquarters and 6 regiments and a corps mobile. The composition of regiments varies considerably, the largest, the 3rd regiment at Shiraz consisting of 2 battalions, 12 road companies and other details. The 'corps mobile,' which is to be stationed at Tehran, and is intended for special expeditions against turbulent tribes, consists of 3 battalions of infantry each of 4 companies of 188 men, 1 regiment of cavalry of 4 squadrons each of 125 men, 1 division of artillery of 1 field battery and 2 mountain batteries. The total strength of the Gendarmerie is to be 47 Swedish Officers, 12,308 men and 4,456 horses.

Siam.—It is reported in the press that the Ministry of Marine has ordered three submarines to be constructed in Germany.

The development of railway communications is proceeding rapidly.

The Northern line is open as far as Ban Ping and it is expected to be open as far as Pak Ping almost immediately. The line, which will eventually run to Chengmai, is expected to be completed in 1918. The route presents no very serious engineering difficulties, though there will be a tunnel 1,470 yards long at Khoon Tan, and a short tunnel 153 yards long near Pang Puel. The bridge across the Mc Yome at Pak Chan will probably be completed this year.

On the Southern State Railway daily trains for passengers and goods were run on both sides of the peninsula from the 1st January; on the Trang side from Trang to Tang Sawng and on the Singara side from Singara to Patalung. The section Patalung Ronphiboon-Tung Sawng is expected to be ready by the 1st July. Meanwhile some merchants have now placed a motor lorry for goods and passengers on the Treng-Palung road, thus providing a connection between Singara and Trang some months ahead of the railway.

**Summary of the more important general remarks
in the "Report on the Examination for promotion
held in India, October 1913."**

GENERAL REPORT.

With the exception of Part 1, Tactical Fitness for Command, the examination as a whole is satisfactory.

Taking into consideration that the problem set for Part 1, Tactical Fitness for Command, was not a difficult one, and that the officers for whom it was set are of field rank, the result must be classified as most unsatisfactory. A special communication dealing with this matter will be issued. There were 61 candidates examined, of whom 32 failed, a percentage of 52.4. Of the 29 officers who were successful, 7 gained 75 or over of the total marks. The best examination was passed by Major G. A. S. Gordon, 13th Lancers, with 265 marks out of the possible 300 allotted.

As regards subject (d), there is again a slight increase in the percentage of failures, and the number of candidates who gained 75 of the 1,600 marks allotted is considerably decreased; only 3 officers of the 285, who took up all 4 subheads, obtained this high percentage, against 7 out of 140 at the last examination. The highest marks in this subject were obtained by Lieutenant C. W. Mason-Macfarlane, 7th Hussars, with 1,248.

The percentage of failures at this and previous examinations in this subject is as follows :—

October 1911	...	...	...	29.2
March 1912	...	...	...	18.83
October 1912	...	...	...	15.31
March 1913	...	...	...	18.57
October 1913	...	...	...	19.3

The detailed results of this examination are as under:—

Subject		Number examined.	Number failed.	Percentage of failures.
All four sub-heads	...	285	55	19.3.
(d) i ...	...	301	24	8
(d) ii ...	...	340	34	10
(d) iii ...	...	342	22	6.43
(d) iv ...	...	293	9	3.07

The reports on examinations held in India are obtainable from the Superintendent, Government Printing, Calcutta, and their publication is notified in India Army Orders. Intending candidates are advised to study the remarks on the candidates work in previous reports, which are published with the object of aiding them.

Similar reports on examinations held in the United Kingdom are obtainable from any of the official publishers, price 1s. for examinations up to December 1910 inclusive, and since that date, 6d.

As in future the papers for the written examinations will be identical throughout the Empire (except that in certain subjects there will be special questions to suit local conditions), the remarks on the examinations held in India will be embodied in the reports issued by the War Office, and will not form a separate publication as heretofore.

CANDIDATES' WORK.

Subject Part I, Tactical fitness for Command.

The work submitted for this examination must as a whole be considered of a somewhat low standard, especially when it is remembered that these officers are qualifying for the rank of Lieutenant-Colonel, which will later on entail responsibilities in the training of the junior officers under their commands.

It is necessary to accentuate the remark made on the examination in March 1913, *viz.*, that Training and Manœuvre Regulations, 1909, Section 13, has not received sufficient attention, and it would often be most difficult, if not impossible, for a superior officer to glean the necessary information which would enable him to decide on a practical course of action from the appreciations written. In other words they are not appreciations.

* * * *

In considering the action that may be taken by the enemy, candidates are inclined to make bald statements as to movements he may make. They do not state how these movements are likely to affect the successful issue of their own plans, or make suggestions as to the best method of meeting these movements.

* * * *

Extracts from the general and special ideas again figured largely in the appreciations, and there were long irrelevant descriptions of the map.

Orders.

Quite a large percentage must be considered indifferent, and a few bad.

The principal faults which occurred frequently were :

No starting point, and the starting point not marked at night.

Mounted troops in the advanced guard, or far up in column when moving at night.

Moving second line transport, tent sub-divisions of field ambulances, and supply column with the fighting troops at night, when contact with the enemy was probable.

Apparent ignorance of the composition of a field ambulance shown by the bearer and tent sub-divisions never being mentioned; also of the section of the signal company, by halving it.

Omission of special orders when moving at night.

Omission of orders for second line transport.

Outposts withdrawn at night at a stated time and before the main body moved.

The use of the word "dawn".

* * * *

3. A few other facts are worthy of notice.

Five candidates were unaware of the nature of the infantry battalions composing a "mixed" infantry brigade.

Four candidates despatched copies of orders by mounted orderlies to Army Headquarters, a matter of perhaps 100 miles.

One candidate remembered the days of "by order".

A notice at the end of the order, "dictated to representatives of units", hardly meets with the intention of Field Service Regulations, Part I, section 12 (4).

* * * *

Subject (d) (i) Tactics.

The papers set in this examination were generally of the same standard as in the last examination. There were very few papers which showed that the candidates had not worked at the

text-books. A large number showed that candidates had been carefully instructed and that they had considerable practice in solving simple tactical problems.

2. One curious tendency was remarked in this examination; it has been noticed before and perhaps it would be well to draw some attention to it. Subject (d) (i) is called "Tactics, embracing a knowledge of field engineering". A great many candidates appear to search through a paper for opportunities to show their knowledge of the embraced subject; this induces, in many cases, a tendency to adopt a defensive attitude and to "take up a "position", whenever such a course can be fitted in. This tendency requires to be guarded against.

3. The general and special ideas may have appeared unusual. The object in these problems, is to produce a detached force with a definite enemy to work against. The necessary detachment is usually produced by using the framework of a post on the line of communications of a large force. The present scheme was adopted as a variant from post schemes. Only four candidates showed that they were not disconcerted by the unusual setting adopted for the very ordinary tactical problems presented.

* * * *

5. One criticism can be made on the writing of orders, where these were attempted. Few officers gave really good "intention."

This paragraph should be very carefully thought out, as it is the keynote of those succeeding it.

* * * *

Subject (d) (ii) Military Law.

The papers were, as a whole, well answered, the average marks obtained being high, though a good many officers (34 out of 340 or 10 per cent.) failed to obtain half marks and thus did not pass. The work done by Captains, British Service, which has formed the subject of adverse comment in the last two reports on this examination, shows a distinct improvement.

2. It is regretted that it is again necessary to call attention to certain avoidable faults, which have been so frequently pointed out, viz:—

(a) inordinate length and irrelevance of many of the answers;

(b) failure to read the questions through carefully before proceeding to answer them;

(c) bad handwriting and general untidiness;

(d) failure to enter on the front cover of Army Book 4 the letter denoting the paper which is being answered.

3. Many Indian Army candidates appeared to be unaware of the fact that 4 questions are asked on British and 4 on Indian Military Law and attempted to answer questions on the former by references to the Manual of Indian Military Law. Every officer presenting himself for examination should make himself acquainted with the subject and form of the examination.

4. The following matters, on which candidates very generally went wrong may be specially noticed :--

(a) a person sentenced to discharge or dismissal can also be sentenced to stoppages to make good any loss, etc.: it is not the business of the court to ascertain whether he has any pay due to him or not.

(b) it is not necessary, and is frequently incorrect, to frame several charges, including alternative ones, when the facts are clear and one charge would suffice: to do so is contrary to the instructions contained in the notes to R. P. 11 and I. A. A. Rule 20;

(c) the scales of punishments recommended by K. R. 583 are not compulsory; in other words, a sentence exceeding what is laid down there is not *illegal*, as King's Regulations have not the force of law;

(d) in order to establish an *attempt* to commit an offence, proof or *preparation* to commit it is not sufficient—still less is it established by proof of mere *intention*: M. M. L., Chapter VII, para. 23, explains this matter very clearly;

(e) a mule corps driver is not a "soldier", within the meaning of A. A., s. 37; if a British N. C. O. strike such a man, the charge must be framed under A. A., s. 40;

(f) subsidiary orders (c) and (f) given on page 311 of the M. I. M. L. must both be recorded when a man is sentenced to more than three months' rigorous imprisonment; they do not form part of the sentence.

5. It is again necessary to point out that, in framing charges under either the Army Act or the Indian Army Act, the wording of the forms of charges given in Appendices I and II to R. P. and the I. A. A. rules respectively must be strictly adhered to. It is *not* permissible to vary the "Statement of offence" to suit the facts of the case, which much be set forth in the "particulars" of the charge.

6. It is feared that officers are still not given opportunities for studying the "Guide to Courts Martial under the Army Act," and the "Guide to Summary Courts Martial under the Indian Army Act", recently issued to every unit. These publications can also be obtained by individuals, on payment, for the small sum of 8 annas each, from the Superintendent, Government Printing, Calcutta. A perusal of their contents will greatly facilitate intelligent study of both Manuals of Military Law.

* * * *

Subject (d) (iii) Organization, Administration and Equipment.

In several cases it was necessary to deduct marks for bad handwriting.

* * * *

Subject (d) (iv) Military History.

THE NAPOLEONIC CAMPAIGN OF 1805.

1. The standard attained in the general paper was not high, but the answers to the special period questions were satisfactory and showed a good knowledge of the period.

2. The principal points calling for criticism are :—

- (a) The want of care in reading the questions, This fault led to much irrelevant matter being given by many candidates.
- (b) The failure of some candidates to give any reasons for the opinions expressed.
- (c) Bad handwriting.

* * * *

THE SHENANDOAH VALLEY CAMPAIGN.

On the whole the papers sent in were good and showed that the campaign had been intelligently studied. The general standard of the answers in the special period was as a rule higher than that shown in the general paper.

The points noted for criticism in the general remarks on the 1805 campaign apply equally to this campaign.

*

*

*

*

Subject (e) Artillery.

The standard of this examination was fairly uniform. The general results of the first paper were distinctly good, while those of the second were poor, as will be seen by the fact that the average marking of the first was 71 per cent. while that of the second was only 58 per cent.

2. This disparity between the two papers seems to be due to the fact that the first consisted of the usual "book" questions, while the second required knowledge of application of principles. The scheme and questions in this latter paper were, however, comparatively simple, similar to problems which must occur on service and at every practice camp. Due allowance was made for the various ways of looking at the situations.

*

*

*

*

Subjects (g) (i) S. and T. Organization and Administration.

With the exception of that of one candidate, the work may be described as fair to good.

*

*

*

*

The Staff Manual (War) contains a useful appendix in which the subject of "graphics" is fully dealt with. The "Army Review" has also published articles on the subject.

Officers should be familiar with this means of facilitating their calculations of time and space.

Subject (g) (ii) Economics.

Two candidates submitted good work, whilst the other three displayed a somewhat imperfect acquaintance with the subject.

In an examination at which books of reference are allowed, it is not sufficient that a candidate should be able to turn up that part of a book that bears on the question he is replying to; it is desirable he should show by his answer that he has grasped the meaning of what the book says; to grasp its meaning some previous study of it is of course necessary.

*

*

*

*

Subject (h) (i) (ii) and (iii) R. A. M. C. Medical.

The answers to the paper on (h) (i) were uniformly very good, four out of five candidates gaining over 75 of the total marks.

On the other hand the papers on (h) (ii) were poor, the candidates inclined to be very prolix and did not pay close enough attention to the question asked.

The questions in (h) (iii) were well answered on the whole, but two candidates failed to describe an Army Form in every day use, or give any succinct account of a simple monthly return and the purposes for which it is compiled.

Subject (h) (ii), I. M. S. Medical.

The work of the candidates on the whole was very indifferent.

Not one of them was conversant with the rules for the maintenance of case sheets given in I. A. F. M.-1249, and many were ignorant of how the case sheets should be disposed of on completion. Most of them were acquainted with the duties of the hospital store-keeper attached to a field ambulance, but one or two confused his duties with those of the Supply and Transport sergeant and some with those of the pack store havildar. Several candidates assigned to sub-assistant surgeons sanitary duties which ought to be performed by the medical officer himself. The majority of them appeared to be ignorant of the instructions contained at the beginning of the Admission and Discharge Book (A.B. 27) regarding the preparation of monthly and annual returns of sick.

It is recommended that more attention should be paid to the instruction of junior officers of the Indian Medical Service who have not passed their examination for promotion.

*

*

*

*

Subject (h) (iii) I. M. S. Medical.

The work of the candidates on the whole was fair.

The question regarding the duties of an officer commanding a field ambulance after mobilization has been completed, was not answered as fully as it might have been.

All had a good knowledge of the requirements of a site for a dressing station, and of the regulations regarding the examination of recruits.

Considerable confusion appears to exist regarding the composition and functions of the bearer division of a field ambulance.

The majority of the candidates gave for a bearer division the establishment and equipment of a bearer company as laid down in Appendix IV, Field Service Manual (Medical), 1908, whilst a few gave that mentioned in Field Service Regulations Part II, Indian Supplement, Chapter X, Section 18, para. 1.

Several candidates confused stationary hospitals with general hospitals.

* * * *

Subject (i) (i) Veterinary.

The paper was a very simple and straightforward one, but with two exceptions the answers were very poor.

* * * *

Subject (i) (ii) Veterinary.

The general standard of knowledge displayed by the candidates was disappointing.

* * * *

Subject (i) (iii) Veterinary.

Considering that the paper was distinctly an easy one, the replies did not reach a very high standard.

Subject (j) Sanitation.

Taken as a whole, these worked papers were poor and far below the standard of the last three years. Great difficulty has been experienced in marking them; many of the answers bore inherent evidence of little real knowledge. Question 1 was very badly answered. Many candidates had the vaguest ideas as to what is meant by "conservancy." Not a few described it as meaning the provision of water supplies. Question 3 was also badly answered, especially as it was a practical question and could have been answered correctly by any one familiar with his own lines and the interior economy of a corps. The most glaring error in the replies to this question was the statement that "dry earth" closets were in use. Considering that "dry earth" has not been in use in British lines for four

years, these worked papers afford a scathing commentary upon the degree of practical interest displayed in sanitary effort by young officers. Seven candidates failed to qualify for a pass (nine per cent.) and sixteen others or twenty per cent. obtained only enough marks for a bare pass.

* * * *

Subject (i), Part I, Appendix XIV, K. R. Majors, R. A. M. C.

The three papers submitted all obtained over 60 per cent. of marks.

* * * *

All the papers showed that the officers under examination possessed the faculty of expressing themselves clearly and concisely.

* * * *

Subject 2.

Four worked papers were received. Taken as a whole they were fair.

* * * *

No candidates handed in work of any marked merit.

Subject 3.

Only 3 candidates—too small a number for useful generalization.

Character of work mostly good.

There is a tendency among candidates to include in their replies matter not required by the questions.

* * * *

Subject 1 Appendix XV, K. R. Majors, A.V.C.,

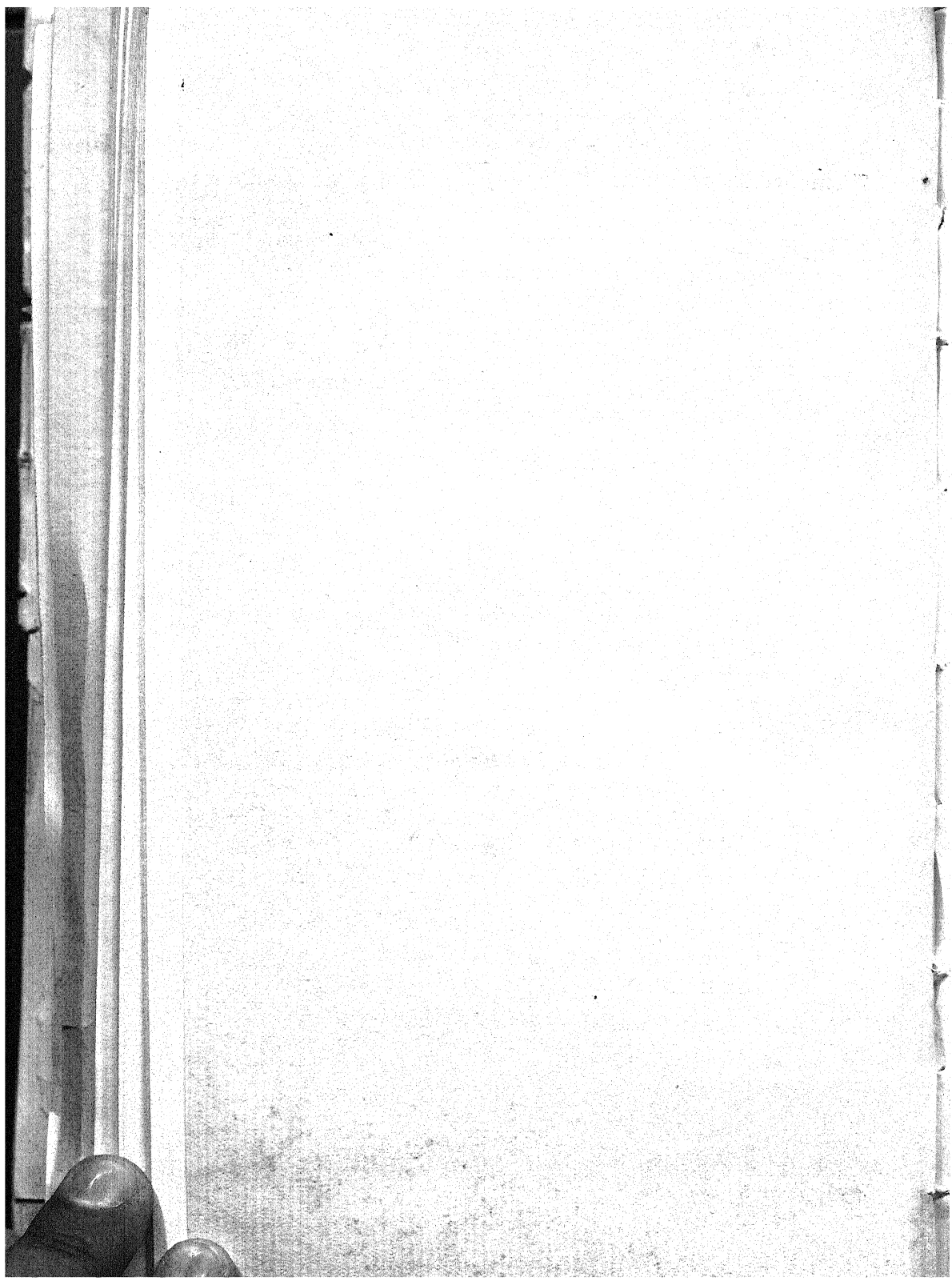
In his answers the candidate displayed a great want of administrative capacity, and a lack of accurate knowledge of veterinary matters, which must have come before him daily in his executive duties.

***Translation communicated by the General Staff,
India.***

From the "Russki Invalid" of 5th (18th) March 1914.

MECHANICAL TRACTION IN THE GERMAN ARMY.

In the German army the employment of motor traction for transport is steadily on the increase. At the present time, in addition to motor trains owned by the government, there are also at government disposal a number of privately owned ones, for which an annual subsidy is paid; of such there are now 207. The military type of motor train consists of a motor lorry weighing 4000 kilograms and carrying a load of 5000 kilograms with a vehicle attached which takes a load of 2000 kilograms; these trains may also be adopted for the conveyance of troops and can carry 50-55 men standing or 40 men sitting in full field service marching order. In addition to motor trains there are also light automobiles, heavy motor omnibuses and a special type of vehicle for cavalry. Transport columns on the line of communications consist of several motor trains with the addition of a mobile repair shop; at points on the line of communications stores of petrol and oil will be established. A day's journey for a light automobile is reckoned at 300-200-150 kilometres depending on the nature of the roads, level, hilly, or mountainous: of a military motor train at 100-80-60; and of a special cavalry vehicle at 125-100-75.



Reviews of Books.

"Scott's Last Expedition Published by Smith Elder & Co. Price £ 2."

The two volumes of Leonard Huxley's work "*Scott's Last Expedition*," are both bulky and heavy, but this fact should constitute no obstacle to any one making the time to read both. It is possible to skim through them hastily, or even to dip into them anywhere for a page or two, and yet to extract much that is interesting if not exciting; but it is also well worth the while even of those not scientifically inclined to read both volumes carefully from cover to cover. The diaries, of which the major part consists, sometimes appear to be rather monotonously full of the obstacles and difficulties encountered, such as ice waves ("sastrugi") or bad surface (glide), and snow blizzards: but intermixed throughout, especially in Scott's diaries, there are small items of personal or instructive interest, which it would be a pity to miss.

The chief feature of Scott's account of the ship's voyage is his unstinted praise for all his companions and assistants. One remark made during the voyage is particularly, and in view of future events pathetically, interesting. He said "the possession of such support ought to ensure success. Fortune would be in a hard mood indeed if it allowed such a combination of knowledge, ability, and enthusiasm to achieve nothing."

The style of writing varies with the authors of the diaries, and gives an indication of the character of the several writers. Purists might cavil at split infinitives here and there, but there are no grave faults discernible in any part of the book, and on the whole the style is clear and readable. This is due partly to the fact that impressions were recorded at the time, and the wording has not been altered.

From Scott's diary we may gather that he was extremely sympathetic and considerate, and up to the very end, in spite of adversities, he was trustful in Providence, and looked on the bright side of everything. His personality appears to have inspired a wonderful discipline into all his collaborators, for there was never a suspicion of any trouble of that nature.

Dr. Wilson's diary in Vol II is rather more solid matter-of-fact reading, but it is relieved at intervals by extracts, very rough and unstudied, from a private diary kept by Cherry Garrard.

Lieutenant Campbell's diary of the Northern Party's doings is perhaps the lightest reading of all. There is an unconscious substrata of humour running all through it, and the details of food and personal comfort (or discomfort) are more fully dealt with than in any of the other diaries,

making it intensely interesting. Dr. Griffiths Taylor's record of the Western Expeditions was apparently carefully written up after his return. His experiences will probably be of more interest to scientists than to the general public.

The story told by Dr. Atkinson, who was in charge of the party throughout the second dreary winter, is simply told without embellishment or remarks, but it makes pathetic reading.

Dr. Simpson's paper on the meteorological conditions is of special interest in India, and one may look forward with pleasure to hearing a lecture which it is proposed that he should give in Simla this year.

The illustrations of the two volumes are superb. The pictures, whether paintings, sketches, or photographs are all on a high level of artistic merit, and all are excellently reproduced by the publishers. Evidently photography had been reduced to a fine art by more than one of the members of the expedition.

One of the only criticisms of the work which it is possible to make is that there is no connected story of the doings of the expedition. From Scott's diary it is difficult to follow all the events of the first year, and the other diaries give no general account of the whole expedition. The Epilogue, which is placed at the end of the second volume, explains the fitting out and the start of the "Terra Nova."

A short summary therefore of the main facts of the expedition may help intending readers to follow the diaries.

In September 1909 Scott published his plans, and the party left England, in the "Terra Nova" in June 1910, and New Zealand at the end of November. The 65 men comprising both the shore party and ships party had been carefully selected from about 8,000 volunteers!

None of the misfortunes of the party can be directly attributed to carelessness, want of forethought, or mismanagement; they were due simply and solely to bad outrageously bad luck. This bad luck started early, for the "Terra Nova" encountered a very bad storm in December, and, the pumps failing, the ship nearly foundered. Then she was detained 20 days in the pack. Both of these misfortunes were unusual and contributed to damaging the condition of the horses and dogs, upon which success largely depended, as well as causing great anxiety as to the exhaustion of the coal supply.

On January 4th 1911 the "Terra Nova" anchored in Mac Murdo Sound of the Ross Sea. The winter quarters were fixed at a spot which was christened Cape Evans. A week or two was spent in disembarking stores, and then 3 parties set off in different directions.

On January 28th the "Terra Nova" took the Northern Party, six men under Lieutenant Campbell, to Cape Adare. This party tried to land at the Bay of Whales, to explore King Edward's Land, but found that Ammundsen's party had already built their winter quarters there.

Campbell and his party spent the remainder of this summer (January and February 1911) in exploring, and expected to be taken off by the ship to return to Cape Evans, not later than March 15th. The ship, however, owing to the early setting in of the ice, was unable to reach them. Then commenced a story of hardship and privation, which is difficult to imagine and thrilling to read.

The party had no hut, so they were forced to hew a cave or "igloo" out of the ice, and line it with snow for better insulation. The ventilation of this cave proved a serious difficulty, as the mouth of the cave got blocked up by snow-drifts, and lights then all went out. They had to lay in a stock of meat to last through the winter and to allow of a march of over five weeks to get back to Cape Evans in the spring. Fortunately there were some Emperor penguins and seals to be had now and then, and these were carefully chased and killed, then stored away in ice caves. This main diet was eked out with a few very sparse luxuries, such as tea. Weak tea was allowed only once a week, the leaves were then reboiled for a second day, and then dried and mixed with wood shavings for use as tobacco! Cocoa was sufficient for use five nights a week, chocolate about once a month, and an allowance of 25 raisins per man was given on any one's birthday. (The difficulty was to prevent each man having a birthday once a month.) Biscuits had to be reserved solely for the sledging journey when more nourishing food would be necessary. As a result of this low diet, the general discomfort of the "igloo", and the low temperatures, two of the party contracted dysentery, and though they did not have to be carried on the sledges, they could not pull much, and were only able to cover about 5 to 6 miles a day.

Eventually, on November 7th 1911, the party regained Cape Evans in a worn out condition.

On January 26th 1911 Griffith Taylor with a party of 5 went west for a geological exploration of the western portion of the coast: they returned to Cape Evans in March. The same party went again in October to explore more of the western coast.

On January 25th 1911 the majority of the shore party started off with dogs and ponies to lay out depots of supplies along the route which the Polar party were to traverse the following spring (November). Besides laying out these depots, the party gained much useful practice and experience in sledg-

ing, camping, etc. Unfortunately two of the ponies lost condition in blizzards and had to be shot, and one fell into the sea.

The depot party returned to Cape Evans at the beginning of March, and all prepared to hibernate there for the winter. All, that is to say, except a party of "hardy Norsemen," under Dr. Wilson, who actually carried out a winter expedition to Cape Crozier, in order to secure Penguin eggs, with the object of tracing the developement of that bird. The party started on June 27th, and got back on August 1st 1911, travelling in almost total darkness at the coldest time of the year. Their journey, though short, was about the hardest on record, and it was a marvel that any of them returned to tell the tale. Once for 48 hours they were without any roof (it having blown off their hut) and without food in a blizzard at a temperature of -60° . Once they had 109° degrees of frost. Their sleeping bags used to freeze so hard, that it took them hours to crawl into them.

In the hut the winter routine had kept the remainder of the party fairly fit, interested, and cheerful. The occupations indulged in were football (as long as light lasted), regular lectures on a variety of subjects by the various experts, exercising animals, observations, walks, and chess. On mid-winter day there was a feast with a Christmas fare to suit local conditions!

At the first sign of spring a small party under Lieutenant Evans went out to some of the depots to make sure that they were traceable.

The main expedition, called the Southern Party, started at the beginning of November for the great Polar journey. Set-backs occurred early in the journey. The two remaining motor sledges (a third had sunk through the ice into the sea when being landed) only covered a few stages, and then had to be abandoned owing to cracked cylinders. The party had therefore to proceed with ponies, dogs, and man-haulage.

At the 27th camp (December 1st) some of the ponies commenced to show signs of failure, and, as intended, they were killed and used as food for men and dogs. Unfortunately the party was then delayed for four days by a blizzard, which exhausted the ponies and entailed a heavy inroad on the precious fodder. As a result all the remaining ponies had to be slaughtered at a camp at the foot of the glacier, suitably named the "shambles". The margin of safety still allowed Scott to be confident of the result, and he pressed on.

The dogs, under Meares, turned back on December 11th, the 1st supporting party, under Dr. Atkinson, on December 21st; and the 2nd supporting party, under Lieutenant Evans, on January 3rd. Scott then proceeded with his own party of four, and also Lieutenant Bowers, who was about the fittest in the whole party, taken from Evans' party as a fifth man,

Scott's arrival at the Pole and the finding there of signs that Ammundsen had preceded him by a few days, are well known to all, as also the return journey to within 11 miles of "One Ton Depot," where he was stopped by a ten-day blizzard.

It is noteworthy that almost to the very end Scott retained a hopeful outlook, and Dr. Wilson continued to collect geological specimens even when the party could barely drag the necessities of life. Though beaten in the race for the Pole, Scott still looked upon his expedition as the greatest and most successful expedition to the south polar regions, owing to the large mass of scientific information accumulated.

The failure to reach safety is actually attributable to the abnormal blizzards and consequent delay, which necessitated the return journey being made when the weather was beginning to break, and the temperatures were extremely low. A route further east, where Ammundsen crossed the barrier, would have escaped the local blizzards. Ammundsen, it may be noted, made a more successful use of dogs and depended on them entirely.

Efforts were made to expedite the return of the Polar party in March 1912 by sending the dog teams out to "One Ton Depot"; but the severity of the weather, and the scarcity of supplies prevented them pushing beyond there. They were stopped by the same blizzard as stopped Scott.

The remainder of the party were then obliged to spend another winter at the hut, in the sad knowledge that there was no longer any hope of the Polar party having survived. Lieutenant Evans who had returned from the south with scurvy was sent home in the "Terra Nova" in March 1912. The ship each year wintered at Lyttleton, and returned to Cape Evan in the spring (October).

On October 30th 1912 Dr. Atkinson with 8 men, the 7 mules sent by the Indian Government, and the dogs, proceeded south to search for the bodies of Scott and his companions, which they expected to find in some crevasse. At the camp where the bodies were found a large cairn was erected, and the spot still further marked by up-ended sledges.

Before the "Terra Nova" left the south, on January 20th 1913, a large wooden cross was placed on the coast, on which was inscribed "To strive, to seek, to find, and not to yield."

The Wars of the Roses—1377-1471, by R. B. Mowat, M. A.
Published by Crosby, Lockwood and Son. Price 6s. net.

This book gives a very interesting and readable account of what has since come to be called the "Wars of the Roses"; for during the actual period of conflict the House of York alone used a white rose as a badge, and the name is an invention of the sixteenth century. It deals principally with that period

of almost incessant civil war which existed in England between the years 1450 when the young King Henry VI, confronted with the choice of either Edward of York or the Duke of Somerset as his chief adviser, appointed the latter Constable of England; and 1471 in which year the legitimate Lancastrian line became extinct by the death of that king. But in order to allow of a complete understanding of the claims of both sides, the history of the rivalry between the houses of York and Lancaster is traced from family settlement of Edward III by which five great and royal houses, subsequently reduced by death and inter-marriage to these two, were established; and in addition a brief summary of events till the year 1485 is given, thus carrying the story on until by the accession of Henry VII the Tudor dynasty replaced that of York.

The house of Lancaster had an indisputable parliamentary right to the throne; and at first justified its rule by giving the country a constitutional monarchy, that is to say one which, as compared with the usual absolute rule of those days, would defer to the wishes of the nation. But eventually it failed to keep order or govern the kingdom and the nation accepted the rule of the house of York as being more likely to lead to peace and good administration.

The period dealt with is important historically, not only as being that from which modern England may be said to have arisen, but also because it laid the foundations of England's prosperity and greatness under the Tudors. During these wars the power of the nobles was very considerably weakened, if not altogether broken; and this resulted in the middle classes obtaining more weight and importance in the government of the country and the gradual development of a united nation.

It is curious to note how little real interest was taken in the wars by the people of England as a whole; generally speaking only the nobles fought as if the issue were important, the rank and file showing no great resolution to die on the field of battle once the fortune of the day turned against them; while the towns near which fighting took place often appeared quite indifferent to the result. Indeed at times the wars seem to have become almost a blood feud between the nobility on either side. This was usually confined to executions after the battles, but a striking instance occurred when, after the fight at Wakefield, Lord Clifford recognised the Earl of Rutland, the eighteen year old son of the Duke of York and, in spite of his begging for mercy on his knees, stabbed him with a dagger saying "By God's blood, thy father slew mine, and so will I thee, and all thy kin." To this general retaliation after a battle there was one notable exception and

that was in the chivalrous treatment of Henry VI after the battle of St. Albans by the Duke of York and later by Warwick after the Lancastrian defeat at Northampton.

One of the results of the nation as a whole not being really interested in the war, was that the armies were usually very small, 5,000 being about the normal; another was that neither side dared to allow plundering for fear of rousing enmity. So ultimately the people held the balance of power. In fact the war caused little distress to the majority of the nation; and commerce flourished in spite of it. Moreover in practically every county both parties were represented until the year 1461 when the war became almost one of "North *versus* South" with the Trent as the dividing line. In this general distribution of the parties the importance of London stands out very clearly, for whichever party held London, held the kingdom; while the growing power of the middle class, especially in that city, was a powerful factor for order. In fact the ultimate success of the Yorkist cause was undoubtedly in a great measure due to the support of London and of the middle class; for there were far more Barons on the Lancastrian side.

Of the actual fighting there is not much to be said, the usual formation being in three "battles" or divisions each led by some prince or noble who as a general rule fought on foot. Artillery was used on both sides with a certain amount of effect; but the Burgundian "musketeers" who fought under Warwick at St. Albans could hardly have been considered dangerous, at any rate to the enemy. The most interesting battle is that of Barnet where King Edward IV showed good leadership, and it is interesting to note that his success was largely due to the recognition of a principle regarding marches, which is laid down in our present Field Service Regulations. The Genealogical Tables at the end are a great assistance especially to those whose history has become a little rusty; and there is also a very clear map which enables the various moves of the opposing forces to be easily followed.

"The Principles of War" (Vol. I, with maps-Vol. I), by Major General E. A. Altham C.B., C.M.G., Published by Messrs Macmillan and Co., Ltd., London, Price 10s.-6d net.

The object of the book is explained at the beginning of Chapter V., namely to illustrate from history the principles put forward in Field Service Regulation Part I. The author has attained his object, and the development of modern tactics is clearly explained, without the book being of unwieldy size or overburdened with historical references.

In the first chapter stress is laid on the necessity for the development of the moral qualities and the spirit of self-sacrifice in a nation, and the perfection of the organization and discipline if the armed forces of that nation hope to be successful in war.

The organization of armies is then discussed, and it is shown how formations have varied in recent years in regard to their strength, composition and proportion of the various arms; the principles of the employment of the various arms, including air-craft, cyclists, mounted infantry and machine guns, are exhaustively dealt with and exemplified from history. Stress is laid on the development of the offensive spirit that strives to close with and defeat the enemy and not merely to manoeuvre him from his position. Attention is also drawn to the necessity of developing the moral and physical qualities of the troops to enable them to stand the strain of the continual marching and fighting by day and night and the consequent loss of sleep, which are due to the prolonged duration of modern battles.

The last six chapters of the book discuss the work of commanders and staff in the duties of inter-communication, orders, movements by land and sea and the disposition of troops in billets or bivouac.

The book is illustrated with 5 maps, taken from the British Official History of the Russo-Japanese War, bound in a separate volume in a manner very convenient for handy reference.

An error appears to have occurred on page 114, in the calculation of the complement of aeroplanes for the Royal Flying Corps.

The book is clearly printed and should be of great assistance and interest to any who wish to study the question of the employment of troops in modern warfare.

The Sepoy Officer's Manual by Captain F. Etheridge, 7th Rajputs. Published by Thacker Spink & Co., Calcutta, Price Rs. 3-8

The book is a most convenient hand book, not only for officers presenting themselves for examination for admission to the Indian Army, but also as a book of reference for any officer serving in an Indian infantry battalion, and for officers who may be serving on the staff of a brigade, which includes Indian infantry battalions. It comprises a summary of the military law, regimental duties, interior economy, rules for pay and correspondence, musketry and books which are necessary for a "Sepoy Officer" to know.

It is unfortunate that the volume should have been issued at a time when the system of paying troops in India is being changed; and when the change in the organization of an infantry battalion at home will probably

entail changes in the nomenclature, at any rate of the units of an Indian battalion.

To make the book complete a chapter might, with advantage be added dealing with the duties that fall to the various officers on the order to mobilize being issued.

The book is clearly printed and is found in a handy form for ready reference.

"The Battle of Liaoyang" By Major T. R. C. Price, 11th K. E. O. Lancers. Price Rs. 1.

This is a pamphlet, the contents of which were originally prepared for delivery as a lecture. There are no maps with it, but in view of the many first-rate maps published in other works, the provision of special maps was clearly unnecessary.

The author begins his account with a brief statement of the positions occupied by the opposing forces, their strength, their objectives and the means by which it was sought to attain them. The courses open to both sides are discussed and political considerations affecting the situation are touched upon.

The above introductory remarks are followed by a lucid narrative of the battle itself. The whole is divided into three principal phases, and the description of the main features of the battle (treated in chronological order) gives the reader a clear picture of the sequence of events.

In the third part of his pamphlet the author deals with the influence of moral and personal factors. The endeavours to show that superiority in regard to these was one of the main reasons why, in spite of their inferior numbers, the Japanese were able to defeat "enemy posted in a position of his own choosing and ready with a good plan to exploit that position to the best advantage". The importance of *the nation as a whole* being determined loyally to support its fighting forces both morally and physically is rightly emphasised.

Another of the principal causes of Russia's defeat lay in the wrongful employment of strategical detachments, and this point is shortly discussed in a couple of pages showing how Kuropatkin frittered away a quarter of his army on detachments detailed to observe and guard against turning movements.

Mutual support and inter-communication form the next theme, and Russian shortcomings in this respect are compared with the wonderful combination displayed by the Japanese.

In conclusion the handling of the General Reserve is dealt with, and we are told how the Japanese, following the German plan, adopted from

Reviews of Books.

the outset a bold offensive with nearly all their available forces, whilst the Russians, once again, largely owing to lack of co-operation, did not make the best use of the General Reserves detailed. The extreme difficulty of delivering the decisive blow at the right time and place is dwelt upon, and suggestions are made as to the best means of overcoming this difficulty.

The pamphlet should be of considerable value to those desirous of studying the Battle of Liaoyang, together with the strategical principles involved.

It is obtainable from the Secretary, United Service Institution of India, *Vide Secretary's NOTES.*

Notices of Books.

"Indian War Medals," by Major H. Biddulph, R.E., Price 2s. 6d. net, (reprinted from the Royal Engineers Journal).

"Guide to promotion for officers in subject (a) (i) Regimental Duties, by Major R. F. Legge, P. of W. Leinster Regiment, Published by Gale and Polden, Ltd. Price 4s. net.

"A Manual of Colloquial Hindustani and Bengali by N. C. Chatterjee, Superintendent, Office of Board of Examiners, Calcutta, Price Rs. 2-8.

"Quite a useful colloquial manual, The language is idiomatic and at the same time, simple, and the words are, on the whole, well chosen."

"Indian Infantry Double Company Note Book," by Major W. R. B. Colan, 67th Punjabis. Published by the Pioneer Press, Allahabad.

"Mainly about Discipline," by Major R. F. Legge, Prince of Wales Leinster Regiment, Published by Gale and Polden Ltd. Price 6d.

"Five Military Papers," by Durbar. Published by the Pioneer Press, Allahabad. Price Re. 1.

UNITED SERVICE INSTITUTION OF INDIA

OCTOBER 1914.

SECRETARY'S NOTES

I.—New Members.

The following members joined the Institution between the 1st July 1914 and the 1914, inclusive:—

LIFE MEMBERS

Captain A. J. Sleigh.
Lieut.-Colonel C. H. Richards.
Major C. C. R. Murphy.

Captain W. G. H. Bates.
Lieut. M. F. D. Cobbold.

ORDINARY MEMBERS.

W. P. Cliff, Esq.
The Hon. Sir W. H. H. Vincent.
H. J. Maynard, Esq.
Lieut. L. A. Newnham.
Lieut.-Colonel H. Harvey Jones.
Major E. A. F. Redl.
Lieut. L. F. R. Vanrenen.
Major E. B. Peacock.
Sir R. H. Craddock.
Major C. E. Southon.
Major-General G. V. Kamball.
Lieut. A. D. Gordon.
Captain L. G. Hart.

Major M. D. Carey.
Lieut. F. W. Townend.
Lieut. P. N. Sanderson.
Major C. L. R. Gray.
Lieut. I. F. G. Hall.
Captain C. H. K. Kirkwood.
Lieut.-Colonel H. Austen Smith.
Major H. Browne-Mason.
Captain A. L. M. Molesworth.
Captain G. H. Sawyer.
Sir C. Cleveland.
Major T. R. E. W. Warren-Swet-
tenham.

II.—Tactical Problems.

In order to assist officers, tactical schemes are issued by the Council of the Institution, to members only, at Rs. 5 per scheme, which include criticisms and solutions by fully qualified officers selected by the Council. 26 schemes are now available.

A number will be allotted to each member with his papers, and solutions must be sent under these numbers to the Secretary, Simla.

III.—Military History Papers.

(i) In order to assist officers in the study of military history, the Institution has for issue, to members only, sets of questions on selected campaigns. The following papers are now available:—

- (a) One paper on the Waterloo Campaign.
- (b) Three papers on Callwell's Small Wars.
- (c) Two papers on the strategy of the Russo-Japanese War.
- (d) Five papers on the battles of the Russo-Japanese War.

- (e) Two papers on the Afghan War, 1879-80.
- (f) Two papers on the Crimean War.
- (g) One paper on the Indian Mutiny.
- (h) One paper on the Shenandoah Valley Campaign, 1861-62.
- (i) One paper on the Bohemian Campaign, 1866, to the Battle of Koniggratz, inclusive.
- (j) One paper on the Jena Campaign, 1806.
- (k) One paper on the Franco-German War, 1870.

The charge for these papers is Rs. 5 each, which includes criticism by fully qualified officers selected by the Council. A number will be allotted to each member with his papers, and answers must be sent under these numbers to the Secretary, Simla.

(ii) Pamphlets dealing with the Shenandoah Valley Campaign from April 1861 to June 1862, the Bohemian Campaign, 1866, to the battle of Koniggratz, inclusive, and the Battle of Lioyang, can be obtained from the Secretary, Price Re 1 each, or Re. 1-2-0 per V.P.P.

IV.—Premia for Articles in the Journal.

As it does not seem to be generally known that articles are paid for, members are informed that a sum of approximately Rs. 400 is awarded for articles and reviews published in each Quarterly Journal.

V.—Library Catalogue.

The library catalogue revised up to 1st November 1912 is available. Members requiring copies should kindly inform the Secretary. Lists of books since received are published quarterly with the Journal.

Price of catalogue Re. 1, or Re. 1-4-0 per V. P. P.

VI.—Books, etc., presented to the Institution.

The acknowledgments of the Council for the following presentations are hereby recorded:—

Presented by the Foreign and Political Department:—

Collection of Indian Orders.

Presented by Major J. W. Hope, R. F. A.:—

"Napoleon's Campaign of 1805."

VII.—Gold Medal Prize Essay, 1914-1915.

The Council have chosen as the subject for the Gold Medal Essay for 1914-15 the following:—

"Recognising that the Domiciled Community of India is of value for military purposes, what is the best method of utilizing it? Give suggestions for its organization and training."

The following are the conditions of the competition:—

- (1) The competition is open to all gazetted officers of the Civil Administration, the Navy, Army, and Volunteers.
- (2) Essays must be printed or type-written and submitted in duplicate.

Presented by Messrs Thacker Spink & Co. Calcutta:—

Military map illustrating the War in Europe.

Newspaper readers companion to the War in Europe.

(3) When a reference is made to any work, the title of such work is to be quoted.

(4) Essays are to be *strictly anonymous*. Each must have a motto, and enclosed with the essay there should be sent a *sealed* envelope with the motto written on the outside and the name of the competitor inside.

(5) Essays will not be accepted unless received by Secretary on or before the 30th June 1915.

(6) Essays will be submitted for adjudication to referees chosen by the Council. No medal will be awarded if the Council consider that the best essay is not of a sufficient standard of excellence.

(7) The name of the successful candidate will be announced at a Council Meeting to be held in August or September 1915.

(8) All essays submitted are to become the property of the United Service Institution of India, *absolutely*, and authors will not be at liberty to make any use whatsoever of their essays without the sanction of the Council.

(9) Essays must not exceed 15 pages of the size and style of the Journal, exclusive of any appendices, tables or maps.

VIII.—Northern and Southern Army Prize Essays.

The Council will award the sum of Rs. 150 each, on the usual conditions, for the best essays sent in from members of the Northern and Southern Armies by the 31st December 1914, on subjects selected by their respective Army Commanders.

The following subjects have been selected:—

Northern Army.—“The physical training and man-mastership of the soldier (British and Indian) in India.”

Southern Army.—

“A consideration of the question of recruiting in Southern India for the Indian Army; with suggestions for improving the same or for tapping sources not at present utilized.”

“A consideration of the extent to which the strategical and tactical lessons of the Russo-Japanese War have been confirmed or modified by the late war in the Balkan Peninsula.”

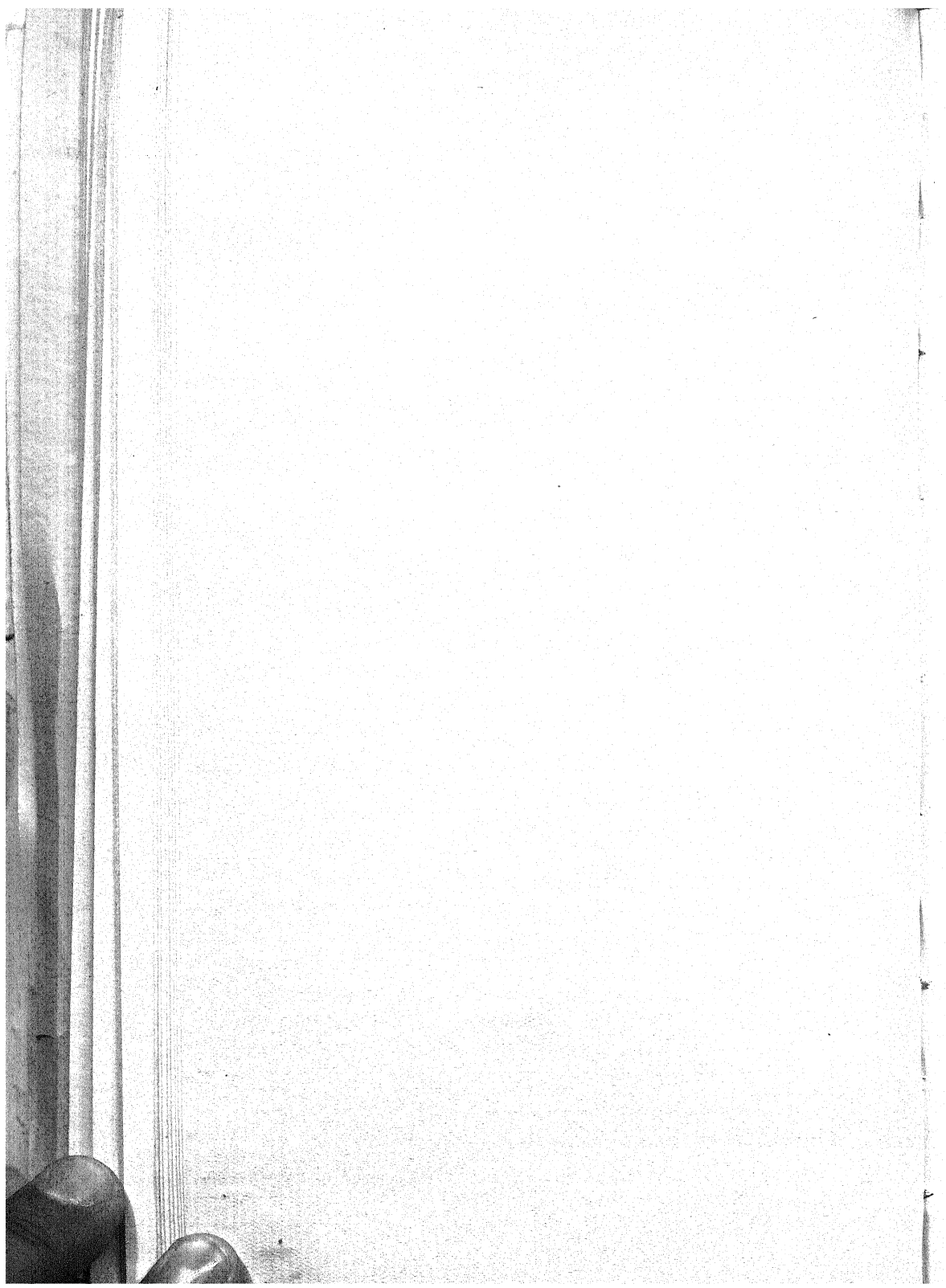
IX.—Contributions to the Journal.

With reference to Army Regulations, India, Volume II, paragraph 483, and King's Regulations, paragraph 453, as amended by Army Order 340 of 1913, intending contributors to the Journal of the United Service Institution of India are informed that action to obtain the sanction of His Excellency the Commander-in-Chief to the publication of any article in the Journal of the United Service Institution of India will be taken by the Committee. Contributors are, therefore, responsible that the sanction of their immediate superior has been obtained, and this should be noted on all articles sent for publication. Articles need not be submitted in duplicate.

Contributors are requested to have their articles either typed or printed.

X.—War Map.

A War Map is on view in the Reading Room of the Institution, with the position of the troops, so far as is known, marked with flags.



The Journal

OF THE

United Service Institution of India.

Vol. XLIII.

October 1914.

No. 197.

Diary of the War.

Up to the beginning of the Battle of the R. Aisne.

28TH JUNE 1914. The Archduke Franz Ferdinand of Austria assassinated at Serajevo in Bosnia.

23RD JULY. Austrian ultimatum to Serbia, asking for an answer within 24 hours.

24TH JULY. Russian note to Austria asking for an extension of the period for the answer by Serbia.

27TH JULY. Austrian mobilisation commenced.

28TH JULY. Austria declared war on Serbia.

29TH JULY. British fleet sailed from Portland, precautionary stage ordered throughout the British Empire. Austrians bombarded Belgrade.

31ST JULY.—Russian mobilisation commenced. Martial law proclaimed in Germany.

1ST AUGUST. Germany declared war on Russia. Italy declared her neutrality. Germany invaded Luxemburg.

2ND AUGUST.—French mobilisation commenced at midnight 1st—2nd. German cruiser bombarded Libau.

3RD AUGUST.—German ultimatum to Belgium. War declared between France and Germany.

4TH AUGUST.—Neutrality of Belgium violated. German fleet passed through the Kiel canal into the North Sea. Turkish mobilisation commenced. Great Britain declared war on Germany. Germany promised to observe the neutrality of Holland.

✓ 5TH AUGUST.—British mobilisation commenced at midnight 4th—5th. Germany declared war on Belgium. Declarations of neutrality by the United States, Sweden, Roumania and Turkey. Germans attacked Liège. German cruiser "Breslau" bombarded Bona in Algeria. British cruiser "Amphion" sunk a German mine-layer at the mouth of the Thames but was herself subsequently sunk by a mine. Lord Kitchener appointed Secretary of State for War.

6TH AUGUST.—7th German Army Corps replused at Liège. Reports, subsequently denied, of a British naval victory in the North Sea. Austria declared war on Russia.

✓ 7TH AUGUST.—Spain declared her neutrality. German mobilisation of obsolete ships at the Baltic ports. Capture of Altkirch and Mulhausen by the French.

✓ 8TH AUGUST.—Allied French and British forces invaded German Togoland.

9TH AUGUST.—British cruiser "Birmingham" sunk a German submarine. Serbia declared war on Germany. Japanese fleet put to sea. Russian troops invaded Austrian territory.

10TH AUGUST.—France declared war on Austria. Germans entered Liège town, the forts still holding out. Bombardment of Antivari by the Austrians.

11TH AUGUST.—French retired from Mulhausen. The German cruisers "Goeben" and "Breslau" entered the Dardanelles. Montenegro declared war on Germany.

12TH AUGUST.—Germans bombarded Pont-a-Mousson. Great Britain declared war on Austria. The "Goeben" and the "Breslau" searched steamers in the Dardanelles. The German Government announced its intention to take the people's savings, £1500,000,000 in case of need.

13TH AUGUST.—Germans repulsed at Haelen, Eghezee and the R. Othain. Russians captured Sokol in Galicia.

14TH AUGUST.—French occupied Saales. The Tsar proclaimed the autonomy of Poland.

15TH AUGUST.—Turkey purchased the "Goeben" and the "Breslau". The British cruiser "Pegasus" bombarded Dar-es-Salaam.

16th AUGUST.—Minor French successes at Avricourt, Cirey and Dinant. Austrian cruiser "Zenta" sunk by the French in the Adriatic.

✓ 17th AUGUST.—Japanese ultimatum to Germany, answer asked for by August 23rd. British Expeditionary Force completed its landing in France. Germans attacked Taveta in British East Africa.

18th AUGUST.—French occupied Colmar and advanced to near Shirmack and Saarburg. Belgian Government moved to Antwerp. Russian mobilisation completed. Servians defeated Austrians at Shabatatz and Loznitz, Germans captured Diest and Tirlemont.

19th AUGUST.—German position ran from Neufchateau to Dinant, and they pushed large forces across the R. Meuse between Liège and Namur, their cavalry reached the R. Dyle. French reoccupied Mulhausen and took Guebwiller. Russians occupied Gumbinnen. Reports received of a mutiny of Czech troops at Prague.

20th AUGUST.—Germans occupied Brussels. Belgian army retired into Antwerp, their rearguard suffering heavily. Austrians attacked Krasnik.

21st AUGUST.—Germans occupied Alost, Wetteren and Ghent. Russians occupied Lyck.

22nd AUGUST.—British holding the line Condé-Mons-Binche opposed by 2 German Army Corps, the French continuing the line through Charleroi to Dinant. Germans attacked Namur. Russians occupied Goldapp.

23rd AUGUST.—British still holding the line Condé-Mons-Binche, in the evening it was ascertained that 3 German Army Corps were moving frontally against them and a fourth Army Corps was advancing to turn their left from Tournai. The Germans had succeeded in forcing the passage of the R. Meuse at Givet and the French were falling back to the line Valenciennes-Maubeuge.

✓ Japan declared war on Germany. Russians captured Arys and Insterburg.

24th AUGUST.—The Anglo-French Army fell back to the line Lille—Valenciennes—Maubeuge—Mezières. Namur fell.

✓ 5TH AUGUST.—British mobilisation commenced at midnight 4th—5th. Germany declared war on Belgium. Declarations of neutrality by the United States, Sweden, Roumania and Turkey. Germans attacked Liège. German cruiser "Breslau" bombarded Bona in Algeria. British cruiser "Amphion" sunk a German mine-layer at the mouth of the Thames but was herself subsequently sunk by a mine. Lord Kitchener appointed Secretary of State for War.

6TH AUGUST.—7th German Army Corps replused at Liège. Reports, subsequently denied, of a British naval victory in the North Sea. ✗ Austria declared war on Russia.

7TH AUGUST.—✓ Spain declared her neutrality. German mobilisation of obsolete ships at the Baltic ports. Capture of Altkirch and Mulhausen by the French.

✓ 8TH AUGUST.—Allied French and British forces invaded German Togoland.

9TH AUGUST.—British cruiser "Birmingham" sunk a German submarine. ✗ Serbia declared war on Germany. Japanese fleet put to sea. ✗ Russian troops invaded Austrian territory.

10TH AUGUST.—France declared war on Austria. Germans entered Liège town, the forts still holding out. Bombardment of Antivari by the Austrians.

11TH AUGUST.—French retired from Mulhausen. The German cruisers "Goeben" and "Breslau" entered the Dardanelles. Montenegro declared war on Germany.

12TH AUGUST.—Germans bombarded Pont-a-Mousson. Great Britain declared war on Austria. The "Goeben" and the "Breslau" searched steamers in the Dardanelles. The German Government announced its intention to take the people's savings, £1500,000,000 in case of need.

13TH AUGUST.—Germans repulsed at Haelen, Eghezee and the R. Othain. Russians captured Sokol in Galicia.

14TH AUGUST.—French occupied Saales. The Tsar proclaimed the autonomy of Poland.

15TH AUGUST.—Turkey purchased the "Goeben" and the "Breslau". The British cruiser "Pegasus" bombarded Dar-es-Salaam.

16th AUGUST.—Minor French successes at Avricourt, Cirey and Dinant. Austrian cruiser "Zenta" sunk by the French in the Adriatic.

✓ 17th AUGUST.—Japanese ultimatum to Germany, answer asked for by August 23rd. British Expeditionary Force completed its landing in France. Germans attacked Taveta in British East Africa.

18th AUGUST.—French occupied Colmar and advanced to near Shirmack and Saarburg. Belgian Government moved to Antwerp. Russian mobilisation completed. Servians defeated Austrians at Shabatz and Loznitz, Germans captured Diest and Tirlemont.

19th AUGUST.—German position ran from Neufchateau to Dinant, and they pushed large forces across the R. Meuse between Liège and Namur, their cavalry reached the R. Dyle. French reoccupied Mulhausen and took Guebwiller. Russians occupied Gumbinnen. Reports received of a mutiny of Czech troops at Prague.

20th AUGUST.—Germans occupied Brussels. Belgian army retired into Antwerp, their rearguard suffering heavily. Austrians attacked Krasnik.

21st AUGUST.—Germans occupied Alost, Wetteren and Ghent. Russians occupied Lyck.

22nd AUGUST.—British holding the line Condé-Mons-Binche opposed by 2 German Army Corps, the French continuing the line through Charleroi to Dinant. Germans attacked Namur. Russians occupied Goldapp.

23rd AUGUST.—British still holding the line Condé-Mons-Binche, in the evening it was ascertained that 3 German Army Corps were moving frontally against them and a fourth Army Corps was advancing to turn their left from Tournai. The Germans had succeeded in forcing the passage of the R. Meuse at Givet and the French were falling back to the line Valenciennes-Maubeuge.

✓ Japan declared war on Germany. Russians captured Arys and Insterburg.

24th AUGUST.—The Anglo-French Army fell back to the line Lille—Valenciennes—Maubeuge—Mezières. Namur fell.

Russians occupied Johannisburg, Oertelsburg, Willenburg, Soldan, Heidenburg and Arys.

25TH AUGUST.—The Allied left wing fell back to the line Cambrai—Le Cateau—Landrecies, Sortie by the Belgians from Antwerp to Malines, The G. O. C. Liege captured in a ruined fort.

26TH AUGUST.—The retirement of the British Expeditionary forces from the line, Cambrai—Le Cateau very severely pressed. Togoland surrendered. Kaiser Wilhelm der Grosse armed merchantmen, sunk by H. M. S. Highflyer. Russians occupied Nordenburg Sensburg and Bishofsburg in E. Prussia Tarnopol in Galicia. British Marines occupied Ostend.

27TH AUGUST.—Allies left still retiring French gained a success at Guise. Russians captured Rothfleiss near Allenstein in E. Prussia. Russians defeated the Austrians on the R. Zlota Lipa. French and British fleets bombarded Cattaro.

28TH AUGUST.—The British beat off German attacks and reached the line Noyon—Chauny—La Fère—Laon. Cruiser action off Heligoland, Germans lost 3 small cruisers and 2 destroyers, British lost no ships. Russians occupied Allenstein.

29TH AUGUST.—Russians invested Königsburg and were engaged at Graudenz and Thorn.

30TH AUGUST.—The Allies in France held the line from the mouth of the R. Somme—La Fère—Laon—Mezières and gained a success at St. Quentin. The 5th and 7th French Army Corps took up their position on the left of the British.

31ST AUGUST.—The German Crown Prince's Army checked at Spincourt and Longuyon. French centre pierced near Rocroy.

1ST SEPTEMBER.—German attacks on the Allies left, which had ceased since 28th August, were renewed. British checked a German cavalry corps at Compiègne and captured 10 guns. Russians had a reverse near Graudenz and General Samsonov was killed. Germans advanced on Antwerp capturing Maline, Termonde and St. Nicholas. Fortification of Brussels commenced.

2ND SEPTEMBER.—Fresh German troops drove back the Russians in E. Prussia. After 7 days' battle near Lemberg

the Russians defeated the 3rd, 11th and 14th Austrian Corps capturing 150 guns.

✓ French Government transferred to Bordeaux.

3RD SEPTEMBER.—No attacks by the Germans on the Allied left between Compiègne and Senlis.

Russians occupied Lemburg.

4TH SEPTEMBER.—The 1st German army ceased its advance on Paris and turned south-east; passed through Rheims to La Ferte Sonsjoularre, 2nd Army reached Chateau Thierry, the 3rd Army the line Suippe—Ville Jourbe.

The Belgians opened the dykes and flooded out a German force near Termonde.

5TH SEPTEMBER.—The Germans crossed the R. Marne. Germans sank 15 fishing boats in the North-Sea.

Russians and Austrians engaged on the line Lublin-Kholm. Bombardment of Maubeuge.

6TH SEPTEMBER.—The Germans reached the line Coulommiers—La Ferte Gaucher—R. Morin—Vitry—Verdun. They withdrew their troops from north-west France. H. M. S. "Pathfinder" was torpedoed in the North-Sea.

Montenegrians gained a success at Boljanitsa in Herzegovina.

7TH SEPTEMBER.—The Allies left wing, British and 2 French Army Corps, attacked the Germans on the R. Ourcq, guarding the right rear of the German main forces. The German line was R. Ourcq—R. Petit Morin—Montmirail—Petit Sommeypuis—Vitry—Sermais-les-Bains.

Russians in E. Prussia succeeded in beating off the Germans on the line Nordenburg—Goldapp—Suwalki.

Russians in Galicia captured Mikhailov and Rawa-Ruska.

8TH SEPTEMBER.—Germans fell back to the R. Marne.

9TH SEPTEMBER.—6th French Army Corps engaged Germans on the R. Ourcq, British drove the Germans across the R. Petit Morin and R. Marne. 60,000 Germans were transferred from Belgium to France.

Servians occupied Semlin.

10TH SEPTEMBER.—5th French Army Corps reached Chateau Thierry; British at Dormans on the Marne took 1,500

prisoners, 4 guns and 6 maxims.

Belgians advanced to Wetteren.

Russians and Austrians engaged on the line Rawa Ruska—Tomashov—Krasnik.

German fleet seen in the Baltic.

German attack on Karonga in British Nyassaland.

11TH SEPTEMBER.—Germans on a front Soissons—Braisne—Fismes—Rheims—north of Vitry—Champenoux—Rehainvillers Guebwiller.

French success at Saint Dié capturing 15 guns.

Australians occupied Herbertshöhe in the Bismarck Archipelago.

12TH SEPTEMBER.—Germans fell back to the line Soissons—Craonne—Rheims—St. Ménéhould—North of Verdun, losing 160 guns. Beginning of battle of the R. Aisne.

The Russians drove the Austrians and Germans across the R. San.

NOTE.—The above is an attempt to compile a diary of the war from the material available in India up to 25th September. It does not profess to be complete or absolutely accurate.

**Lecture by Dr. G. C. Simpson on the British
Antarctic Expedition.**

JULY 10TH 1914.

THE HON'BLE SIR ROBERT CARLYLE, K.C.S.I., C.I.E., PRESIDING.

SIR ROBERT CARLYLE :—Your Excellency, Ladies and Gentlemen :
Before I ask Your Excellency's permission to call on Dr. Simpson to begin his lecture, I will very briefly recall to the memory of the audience a few facts regarding the Scott Expedition.

Scott and his party left England in the Terra Nova in June 1910. Sixty-five men comprising both the shore parties and the ship's party had been carefully selected from over 8000 volunteers. The main expedition was the Southern party which started in the beginning of November 1911 for the great polar journey. Scott's arrival at the Pole and his disappointment on finding from unmistakable tokens that Amundsen had preceded him by a few days are well known to all, as also his return journey to within eleven miles of One Ton Depot. Dr. Atkinson proceeded south in October 1912 to search for Scott and his companions whom they expected to find at the bottom of some crevasses. At the camp where they were found, a large cairn was erected on which was placed a rough cross made from the greater portion of two skis and the spot was still further marked by two up-turned sledges on either side. Before the Terra Nova left the South on January 20th 1913, a large wooden cross was placed on the summit of Observation Hill on the coast, on which was inscribed—"To strive, to seek, to find, and not to yield."

The audience will remember that three members of the Expedition came from India and at one period they were doing a great deal of important work. Two of them, Oates and Bowers, accompanied, and died with, the Polar party, while Dr. Simpson was placed in charge of the base, a responsible position, connected with difficult, important and

arduous duties. I am glad to hear that an officer and several men of Capt. Oates' regiment the 6th (Inniskilling) Dragoons are present here. It is hoped that the United Service Institution will be able to hand over about £50 to the Oates Memorial Fund from the proceeds of this lecture.

Before I conclude, one word about Dr. Simpson. He did not stay with the expedition throughout. When news came from India that, owing to the ill-health of Dr. Walker and Mr. Field, the Meteorological Department was in difficulty, he at once decided that it was his duty to return to this country. This audience will appreciate the self-sacrifice of Dr. Simpson in leaving the expedition to return to help the Meteorological Department at a time of great pressure.

I will now, with His Excellency's permission, ask Dr. Simpson to commence his lecture.

THE BRITISH ANTARCTIC EXPEDITION 1910—1912

Since I returned from the Antarctic certain questions have been put to me with surprising persistence and these have taught me what parts of our work interest people the most. I shall try in the course of this evening to say a few words on each of these subjects as the opportunity in my narrative allows; but there is one question which must be answered before I commence relating our doings in the South.

Over and over again I have been asked, "What was the good of it all"? Unless I can give you a satisfactory answer to this question my lecture will be only an account of strange doings, reckless adventure, and senseless tragedy. The Expedition was not that. To all of us who took part in it, it was something of real importance for the attainment of which we were willing to run all the risks associated with polar exploration.

I will do my best to answer in a few words this important question: "What was the good of it all?"

Ever since the English nation has sent out men in ships to explore the unknown regions of the earth, the attainment of a pole has been the greatest prize held out to the ex-

plorer. It is hard for us to realize how great a part the endeavour to reach the pole has played in our national life. The attempts and failures have provided our boyhood with stories of endurance, fortitude and self-sacrifice which have played an enormous part in forming the ideals of succeeding generations. The doings of Hudson, Cook, Franklin and McClintock are the doings of heroes to every English boy; and it was given to none of these to reach a pole. The desire that England should produce a man to succeed where all others had failed, was very real. After England had led the way to the north she was ousted by other nationalities: Nansen and Abruzzi beat all English records and in 1909 Peary reached the North Pole. The sense of disappointment was great in England and people asked one another, "Has the English race lost its hardihood, endurance and courage, and have we not now men equal to those who planted our flag before all others in the days gone by?"

I know from personal intercourse with Scott, that the national aspect of the attainment of the South Pole was a real thing to him, and his one great ambition was to win it for the British race. It was the desire, so strong throughout England, that the Union Jack should be planted first at the South Pole which provided the funds for the Expedition and caused such tremendous enthusiasm when we left London and Cardiff. Surely no excuse is necessary for undertaking a task, the successful accomplishment of which meant so much to the whole nation.

Scott was not successful in reaching the Pole first; but just as Franklin's failure in the north has added to our national traditions, so the story of Scott's failure in the south will be the treasured tradition of the future. So long as polar exploration necessitates the sacrifice made by Oates, the loyal service of men like Wilson and Bowers, so long will our country be enriched by every expedition which sets out into the icy unknown.

But leaving out these considerations of sentiment and national glorification was there no more material good to be got out of the expedition?

If you count material good only as that which produces immediate wealth, for example coal, metals or cultivatable land, then I must admit that there was none. But scientific knowledge is a valuable acquisition and Scott's Expedition was the best equipped for scientific work which has ever gone north or south.

It will probably help you to see how important it is to do scientific work in polar regions if I give one or two examples. I will take them from my own work as naturally as I am most familiar with that.

If there were no differences of temperature in the atmosphere, life would be impossible on the earth. There would be no winds, no rain, no snow, and heavy noxious gases would accumulate near the ground. In fact it is the difference of temperature between the equator and the poles, modified to some extent by the distribution of land and sea, which gives us our monsoons in India, the trade winds over the oceans and the wet southwest winds in the British Isles. The atmosphere is a heat engine, the boiler being near the equator and the condensers near the poles. What should we think of an engineer who only knew the mechanism of his boiler and knew nothing of what happens to the steam after it passed his cylinders? That is, however, exactly the position of the meteorologist. I can't say we know all about the air movements near the equator but we know a great deal, in comparison with which our knowledge of the other end of the cycle is infinitesimal. Until we know definitely the whole course of the air in its journey backwards and forwards between the equator and poles we are more than handicapped in our endeavours to understand local air movements such as the monsoons in India. I think our expedition has supplied some of the missing links in this chain of knowledge.

That the relationship between the antaratic ice conditions and the monsoon is not merely an academic question has recently been made quite clear. Dr. Walker in his well-known search for extra Indian conditions which affect the monsoon has found a most remarkable relationship between the

number of icebergs in the antarctic seas and monsoon rainfall. He has shown that years with much ice have been years of heavy rainfall in India. This research however has been greatly handicapped by the want of information from the Antarctic, and this information can only be obtained by expeditions such as ours.

I will take my second example from a subject which also is of great importance to us here in India. There has recently been a great controversy in scientific circles as to whether or not Central Asia is drying up. The case is at present being discussed by three of the scientific departments of the Government of India. Sir Sidney Burrard has put forward a most important theory to account for the decrease in the water of Central Asia. During the last ice age, says Sir Sidney, the whole of Tibet and the Himalayas was under a permanent layer of ice just as the polar regions are to-day. This layer has been slowly melting away until now only fragments are left on the highest mountains. During the melting process the water produced gave a plentiful supply to Central Asia and to the Himalayan valleys, but during this period the water was coming from an accumulation of snow and ice which had taken centuries to amass; in fact we were, and to some extent are now, living on capital. The question is so important that a committee has been formed to organise systematic observations of the height of the permanent snow so that we may determine the rate at which the snow accumulations are disappearing now. This problem is almost the same as one of our greatest problems in the Antarctic. There we have the permanent layer of ice over all the land and there are unmistakable signs that it is in retreat, thus confirming Sir Sidney Burrard's main contention. Here we see a problem which is common to India and the Antarctic and every scrap of knowledge we can get from the Antarctic will help us in understanding the conditions in India.

These are two examples of practical scientific knowledge and if I had time I could show you that every science represented on the Expedition had similar problems to solve. I do not think that it is generally realized that more than

half of the men who were with Capt. Scott in the Antarctic took absolutely no part in the polar journey; but spent the whole of their time in doing scientific work. Of the total money spent on the expedition I think that by the time all the scientific work is finished and published more than half will have gone to the scientific side of the work. No other polar expedition has had such a record.

I trust that these few words of justification of the Expedition will be sufficient to remove from your minds any doubts as to whether work in polar regions is worth the risks and sacrifices entailed. Capt. Scott when about to make the supreme sacrifice had no such doubts, and he made this quite clear in his wonderful "Message to the People" You may remember his words:—

"We are weak, writing is difficult, but for my own sake I do not regret this journey, which has shown that Englishmen can endure hardships, help one another, and meet death with as great a fortitude as ever in the past."

In describing the doings on the expedition I shall divide my lecture into three parts. First, the journey to the Antarctic, second, the life at winter quarters, and lastly, the polar journey.

THE JOURNEY TO THE ANTARCTIC.

The South Pole is in the centre of a great continent much larger in area than Australia. The land is all covered with snow and ice to an unknown depth, and every winter the sea freezes up around the whole extent of coast. In the summer the sea ice breaks up and floats out to sea forming the "pack ice" which makes it almost impossible to approach the land. In 1840 Ross set out to reach the south magnetic pole in his two ships, the *Erebus* and *Terror* and tried to get south near the 170° longitude. He was soon brought up by pack ice; but by one of the most daring feats of seamanship he forced his vessels, which were only sailing vessels, into the pack ice taking advantage of every lane

of open water he met. It was a brave deed for he might have been caught in the ice and unable to return; but he had a great reward, for after many days of strenuous work the ships emerged into a great open sea to the south of the pack. This open sea has received the name Ross Sea in honour of its discoverer. Ross sailed south in great hopes of getting right to the pole. But he was brought up by land where he saw an active and an extinct volcano, these he named Erebus and Terror. He tried to get round these but found a great cliff of ice, along which he travelled for nearly 400 miles, barring his way to the south, this with justification he called the Barrier.

Subsequent expeditions have found the Ross Sea open every summer and Scott's plan was to push his way through the pack ice into the Ross Sea, build a hut on the slopes of Mt. Erebus and then send his ship back to New Zealand before the Ross Sea froze over again for the winter. The ship was to return the next summer and take us all back to New Zealand.

In furtherance of this plan the Terra Nova with 58 men, 19 ponies, 33 dogs, one cat, and one rabbit left New Zealand at the end of November 1910. We soon got into stormy seas and nearly lost the ship with all on board, but after eleven days we reached the pack ice. At first it was only thin and the ship was able to push her way through without difficulty, but day by day it got thicker until finally, we could go no further and had to let out the engine fires and wait until the ice opened out. For three weeks we were fighting our way through the pack ice; but finally, on the last but one day of the old year, we steamed into the open waters of the Ross Sea. With all possible speed we sailed towards Mt Erebus and on January 4th we were moored against the unbroken sea ice a little over a mile from Cape Evans where Scott decided to build the Hut. The ship was rapidly unloaded, the stores being dragged on sledges over the sea ice to the land. This entailed a fortnight of most strenuous work, for we worked from five in the morning to eight at night lifting cases, dragging sledges and building the hut.

THE LIFE AT WINTER QUARTERS.

By the time the hut was built and all the stores had been landed it was well on into the autumn, but there were still about six weeks left in which sledging could be done before the winter set in. Capt. Scott determined to use this time in taking stores as far south as he could get. I cannot give any details of this journey which was a truly adventurous one, but it succeeded in putting one ton of stores, chiefly pony fodder 145 miles towards the pole. The depot in which these stores were placed become known as One Ton Camp. This journey was fateful as during it six ponies were lost thus reducing our transport animals to a dangerously low number about which I shall have more to say later.

On April 13th the first of the depot party returned to Cape Evans and then began the second chapter of my story. The position of Cape Evans was so far south that for four months the sun did not rise above the horizon. For two of these months there was practically no difference between mid-day and midnight and no work could be done out of doors without the use of a lantern. During these months we were confined almost entirely to the hut which we had built; and we only went outside for a little necessary exercise for ourselves and the ponies.

There were twenty five of us to feed and sleep and work in a space of 50 feet by 25 feet, an amount of space which I think would have come under the factory and housing laws at home. But in a climate where the temperature goes down to over eighty degrees of frost and the wind blows almost unceasingly, a warm house is preferable to a large one.

I must now do my best to disillusion you. Most people imagine our life during the winter, when there was no light and the cold howling blizzards were blowing, to have been one of general discomfort and misery. I wish to get that idea out of your heads at once. Within the hut we were as warm and happy as one could wish to be. We had plenty of fuel and the hut was kept at the temperature we found most comfortable. It is true that water spilled on the floor froze, and

ice accumulated in every corner; but we were all wearing thick clothes and warm boots so we were never miserable with the cold.

We also had a splendid installation of acetylene gas so that the hut was never dull and dismal, on the contrary it was as bright and cheerful as one could wish.

Now let me say a word about food. While we were in the hut—none of what I am now saying applies to sledge journeys, they were often miserable enough in all conscience—in the hut we had food which was little different from that at home. We certainly ate seal meat and penguin, but these are not at all objectionable. Neither of these meats tastes at all fishy, and after a little time one becomes quite accustomed to them and many men said they preferred them to beef. Capt. Scott made us eat seal meat to protect us from that dreaded enemy of polar expedition scurvy, the best antidote to which is fresh meat. Excepting the meat our meals were very ordinary, vegetables and fruits are now so well preserved that one can hardly tell the tinned variety from fresh. We also had a splendid cook who gave us excellent bread and served us up most wonderful dishes especially at our festival dinners. Galantine of seal and penguin in aspic are not to be despised.

Those of you who have read Capt. Scott's book will remember how often he refers to the harmony which existed between the men of the party. I can endorse every word that he said. I did not hear a real quarrel during the whole time I was in the south and hardly a single voice was ever raised in anger. In this respect our Expedition was nearly, if not quite, unique, for to have 25 men huddled together with no outside interests and with no daylight is very trying to the nerves. The reason why we got on so well together was because of the large amount of work every man had to do. The scientists had their hands full with their own work. In addition there were the dogs and ponies to be fed and exercised, and all the arrangements to be made for the southern journey. From the time of getting up in the morning until after dinner

not a single man had a minute to spare. It was a fine life and a healthy one.

After dinner was our chief time for rest and recreation. We had a pianola and a splendid gramophone, which supplied us with excellent music four nights each week. On the other three nights we had lectures. We had so many scientific experts, and men who had travelled in out of the way places that there was no lack of subjects and we had a most interesting and instructive series of lectures.

In this way the winter passed at a rapid rate; but in truth I must say that when the light returned and finally the sun rose above the horizon we rejoiced in a way that no one can understand who has not been through a polar winter.

THE JOURNEY TO THE POLE.

The problem which faced Captain Scott was one of real difficulty.

The distance from Cape Evans to the Pole was 923 miles, so that the journey there and back was approximately 1,850 miles. There was not a scrap of food to be picked up on the route, so that every thing had to be carried. If four men set out with a sledge and go straight ahead and then back along the same route they can reach about 400 miles from their base. It is important to come back by the same route for on their way out they can leave stores for the return journey in depots at convenient distances apart. When this is done the return journey is made with practically an empty sledge, for at each depot only sufficient food is picked up to take on to the next. A single party of four men cannot then go more than 400 miles from the base. At first sight it would appear that eight men could not go further, for both parties should come to the end of their food at the same time. But suppose eight men with two sledges start and as they go forward leave in depots sufficient food for the return journey. After a certain time it will happen that the two sledges just hold as much food as can be packed on to the sledge. As soon as this occurs one

FFAIR

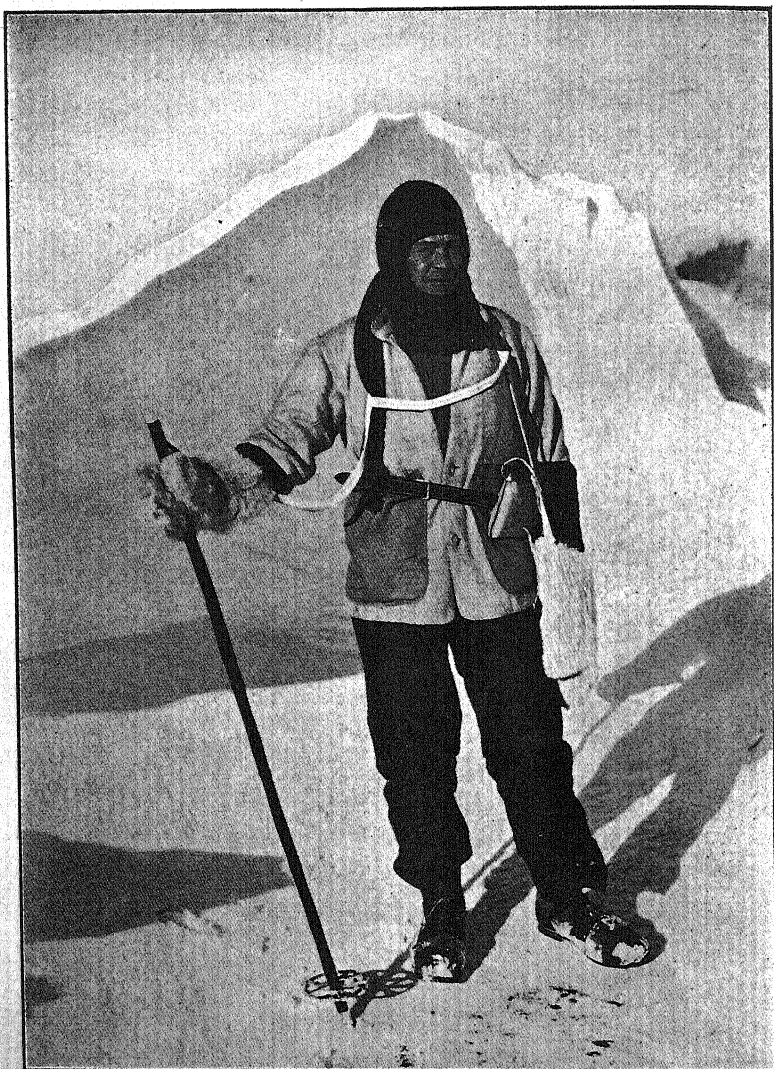
d Karim

PVSM, /

Baljit Sin

VSM (R

K Sinha,



Copyright by Herbert G. Ponting.

CAPTAIN R. F. SCOTT, R. N.

sledge is loaded up, and the other goes back. The sledge which is left behind is fully loaded and therefore can go forward another 400 miles and back to the same spot. It can also get home for there is food in the depots. I can perhaps put this more clearly in another way. Suppose two parties which we will call A and B start together. At first let them use only the food on sledge A, both for their own needs and for laying depots. If they keep in company until all the food has been used up from sledge A and then A returns, B can go on for another 400 miles from this place and get back all the way in safety.

By using three parties and sending each supporting party back as soon as its sledge is empty a still greater distance can be reached. It is important to realize however that every extra party does not increase the range by the same amount. In fact the number of men required to go different distances increases as about the cube of the distances to be traversed. That is if one party can go 400 miles it would take eight parties to go twice as far and twenty-seven parties to go three times as far. This method is obviously not suited for going very large distances.

Another method of increasing the distance is to take animals which can be destroyed when their sledges become empty and their bodies used for food. This has the double advantage that depots need not be left for the return of the animals and fresh meat is provided for the men. Only two kinds of animals are useful for this purpose, horses and dogs. I shall return later to this point.

There is another possibility and that is the use of motors. It is not a simple matter to design motors suitable for use on snow. Wheels are impossible as they sink into the soft snow. Some form of sledge is necessary, and up to the present no form of mechanically driven sledge has been found a success. Captain Scott took three motor sledges with him. One was lost through the ice, before it was ever used, and the other two broke after going only a very short distance.

Now let us look at the sort of country over which the journey had to be made.

Fig I* is a map of the region between our base and the South Pole. The base was at Ross Island and the pole is shown at the bottom of the map. The journey was naturally divided into three parts.

(1) From the base to the foot of the Beardmore Glacier. This part of the journey was over the surface of the Barrier and was the easiest part of the whole. The distance from Cape Evans to the Beardmore was 445 miles; i.e. the distance from Paris to Marseilles, or from Calcutta to Allahabad. Over this part of the journey there was no difficulty with either ponies, dogs or motors; it was a perfectly level surface of snow and leaving out difficulties of weather it was an ideal country to sledge over.

(2) The second part of the journey was of an entirely different nature. The pole itself is situated on a plateau 10,000 feet up. The Barrier is at sea level and the rise from one to the other has to be made up the Beardmore Glacier. The glacier is a river of ice, and like all glaciers is full of crevasses and ice falls. It might be possible to get dogs up, but Shackleton's experience had shown that it was impossible for ponies. You may remember that Shackleton started up with one pony, but he had not gone very far when the pony suddenly disappeared down a crevasse nearly taking with it the sledge and its driver. The distance from the foot of the Beardmore Glacier to the polar plateau is 125 miles, *i. e.* about the distance from Allahabad to Lucknow.

(3) On reaching the top of the glacier one finds oneself on a plateau covered with a surface of snow with absolutely no distinguishing marks, there is nothing to be seen but an unbroken expanse of white glistening snow. On account of its great height—three thousand feet higher than Simla—the physical conditions are exceedingly hard: the barometer stood between 19 and 20 inches making the heavy work of dragging a sledge much more difficult owing to difficulties with breathing, also the cold was intense for it was 25° below what it would have been at sea level, as a matter of fact the whole time the polar party was on the plateau the temperature was about—20° F. *i. e.* over 50 degrees

* Facing p. 491.

of frost. Under these conditions the 353 miles from the top of the Glacier to the Pole are probably the hardest to negotiate in the whole world. 353 miles is about the distance from Lucknow to Ambala, so that the total distance from Cape Evans to the Pole was just as far as from Calcutta to Ambala. This distance had to be covered in going out and returning.

The thing which seems to have troubled most of those interested in Scott's journey has been the question, "Why did not Scott take dogs, as Amundsen did?" This is an important question, and to some extent Scott's reputation as an organiser and explorer depends on how this question is answered; and this can best be done by giving the details of Scott's plan of attack as drawn up by him in London.

The facts that he had were these:

The Beardmore Glacier is impassable for ponies, dogs might be got up, but there was considerable doubt, they certainly could not drag their sledges up the glacier. Against this was the fact that he knew that if he could start with three parties of men from the foot of the Beardmore each pulling a full load he was, humanly speaking, certain to reach the pole and get back. He knew this meant hard work, but he was quite willing to face it, rather than to depend on dogs which, while saving him trouble, introduced great uncertainty.

His problem then was to get twelve men (*i. e.* three parties of four) to the foot of the Beardmore, with absolutely full sledge loads. This problem was comparatively easy, for the surface between the base at Cape Evans and the Beardmore presented no difficulty to either motors, ponies or dogs.

His original plan then was to start from Cape Evans with a great cavalcade of ponies, dogs and motors and get them with an ample margin to the foot of the Beardmore. From this point he would depend on his three parties of men; but if the dogs and ponies arrived in good condition they might be tried on the glacier; and if they were successful they would make the journey more easy and certain.

This plan, consisting of its two parts; the journey to the foot of the Beardmore with half of the animals, and the rest of the journey by the tried method of man haulage with two supporting parties, appeared a safe plan and one which Englishmen by their training and traditions were well able to undertake I say definitely that if I were now set to reach the pole again with Englishmen, I should only modify it in detail.

What was the alternative? But please remember that when Scott made his plans Amundsen had not then made his great journey and you must try to put the knowledge of that journey out of your mind in judging Scott.

The only alternative was the use of dogs. When Scott made his plans the only long journey in polar history on which dogs had been used with success was that of Peary to the North Pole. But that journey was made under conditions quite impossible in the south. Peary to do a much less distance than Scott had to face, used 140 dogs which were driven by 19 Eskimos-men who had handled dogs all their lives and who knew all there was to know about dog driving.

To drive dogs with success a long and arduous training must be gone through and it would have been quite impossible for Scott to have got together a party of Englishmen trained in this work. Then again there was always the question—could dogs be got up the Beardmore? I must mention another factor which influenced Scott: To drive dogs successfully you must have very little compassion in your nature. You must be able to see dogs dropping with fatigue kept at work by the application of whip and stick, and you must be insensible to the howling of dogs driven along in pain.

With these objections to dogs Scott would not have been the great man that he was if he had given up a plan which every reasonable man would say had every prospect of success, in order to do the journey in greater ease.

It is a reasonable question to ask why then did Amundsen succeed? My reply is easy, he succeeded for two reasons,

(1) Because the route he took—quite in the dark, he would have taken Scott's if Scott had not been there—did not contain the difficulties met with on Scott's route. He experienced better weather conditions, and he found an easier glacier to mount than the Beardmore.

(2) He devised a method of dog driving, which as far as I know, had never been used before. A dog must go at about five miles an hour, a man walking on a snow surface cannot go at this pace, but a Norwegian trained all his life to the use of ski, was able to go at this pace with ease on them. The discovery of this method of dog driving is to me the most wonderful of Amundsen's achievements.

When the history of the polar journeys comes to be critically examined and scientifically discussed I thoroughly believe that the verdict will be that Scott's plan was justified and would succeed nine times out of ten. Who then will blame him for adopting it?

Scott's plan then needed only animal transport for 450 miles, but he decided to be well supplied for we sailed from New Zealand with nineteen ponies, thirty-three dogs and three motors, surely an ample supply for all eventualities. But from the day we left New Zealand misfortune dogged Scott's footsteps. Within a week of setting sail we lost two ponies in the great gale, when unloading the ship we lost a motor through the thin ice, then to crown all our misfortunes seven ponies were lost within a few months of landing in the Antarctic. Preliminary work on the ice showed that the motors were unreliable and Scott never placed any reliance on their help.

Another great cause for worry also appeared. Experience had shown that the ponies could not stand the blizzards. In spite of all that one could do, a blizzard played havoc with the ponies, and it was necessary to delay the start for a whole month after the date Captain Scott had planned for the start, this was the reason why Scott arrived at the Pole a month after Amundsen.

By the end of the winter Scott knew that with the resources left to him he would have his work cut out to get

his four parties of men with full sledges to the foot of the Beardmore, but although he was worried he never lost hope.

At last the time came to start, the transport available was two motors, two dog parties and ten ponies.

The two motors started first, each was in charge of two men, so there were four men in the motor party. In three days both motors had broken down, the best got about fifty miles out of the 400 miles they set out to do. The men however did not turn back. They piled as much of the load as they could on a sledge and made tracks as fast as they could towards the south.

The main party of ponies and dogs came on later. The ponies gave trouble, for some were very wild and others were old and lazy. Still by dint of sheer hard work they pushed south and came into sight of the entrance to the Beardmore Glacier and what is more they appeared to have the journey well in hand and there was every chance of getting some of the ponies a little way up the glacier. Scott's plan seemed already to be successful, he had got his three parties and full loads to the foot of the glacier and a little bit to spare. Then the weather took a change. They were only about five miles from the glacier when the heaviest snow storm known in the Antarctic set in; for four days they were confined to their tents without being able to move a step. But the worst was that when the storm was over the whole country lay under four feet of newly fallen snow in which the ponies floundered to their bellies and the men sank to their knees. When the snow stopped falling they commenced to move, after a few miles the ponies were done for and they had all to be destroyed. The pony meat was used to feed the dogs on the journey back.

At last the glacier was reached, the dogs were sent home as there was not sufficient food to take them further and the twelve men started up the glacier. In spite of all, the original plan had so far succeeded, for there were twelve men on the glacier with full sledges and depots laid behind them for the return home. But how different the conditions





Copyright by Herbert G. Ponting.

LIEUT. H. R. BOWERS.

were from those expected! Instead of a good hard surface of ice over which the sledges would run with comparative ease, there was a layer of light snow into which the sledges sank so that they could only be moved by standing pulls. For the next few days pulling the sledges was heart-breaking work, but they stuck to it and finally the top of the glacier was reached. Here the first of the supporting parties was detached and they returned with an empty sledge leaving all their load with the two parties who were still to go forward.

At this point when there were two fully loaded sledges with eight men just at the top of the glacier Captain Scott was free from real anxiety, it was here that he wrote:—

“So here we are practically on the summit and up to date in the provision line. We ought to get through.”

Fourteen days later the second returning party started on the return journey, and the five men left in the main party set forward with high hopes and every prospect of bringing their task to a successful conclusion.

I should like here to show you portraits of the five men who formed the party which planted the British Flag at the South Pole, and made for England a tradition of which the nation will ever be proud.

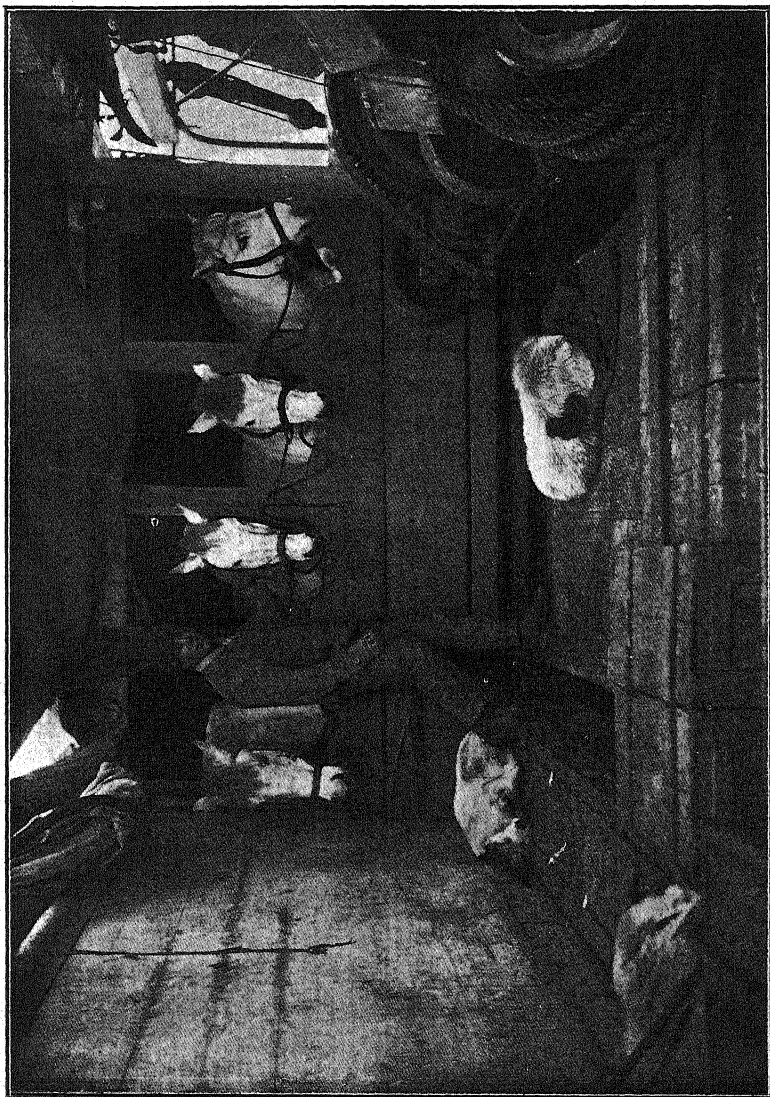
Petty Officer Evans had been with Scott on his first expedition. He was a typical seaman of the big burly type. He was invaluable on the expedition for skill in making and repairing sledges, sleeping bags, shoes and other gear connected with sledging. Judged by all physical standards he was the strongest man of the party, and by his genial disposition, great experience and undoubted handiness he well deserved the honour of being included in the polar party.

Lieutenant Bowers, of the Indian Marine applied from India to go with the expedition. He was so strongly recommended by his officers and by Sir Clement Markham that Scott decided to take him without first seeing him. Lieutenant Evans had also known Bowers when they were boys together on the training ship *Worcester*. A cable was sent to India, and one day while Scott and Evans were seated in

the office in London a knock came to the door and a small man with a large nose was ushered in. He introduced himself as "Bowers from India." Scott and Evans looked at one another in consternation for they had never dreamt of such a small weird looking little man. When he left the room Scott said to Evans "Can that be the man," the reply was "I am afraid it is, Sir," and Scott rejoined "Well we must make the best of a bad job."

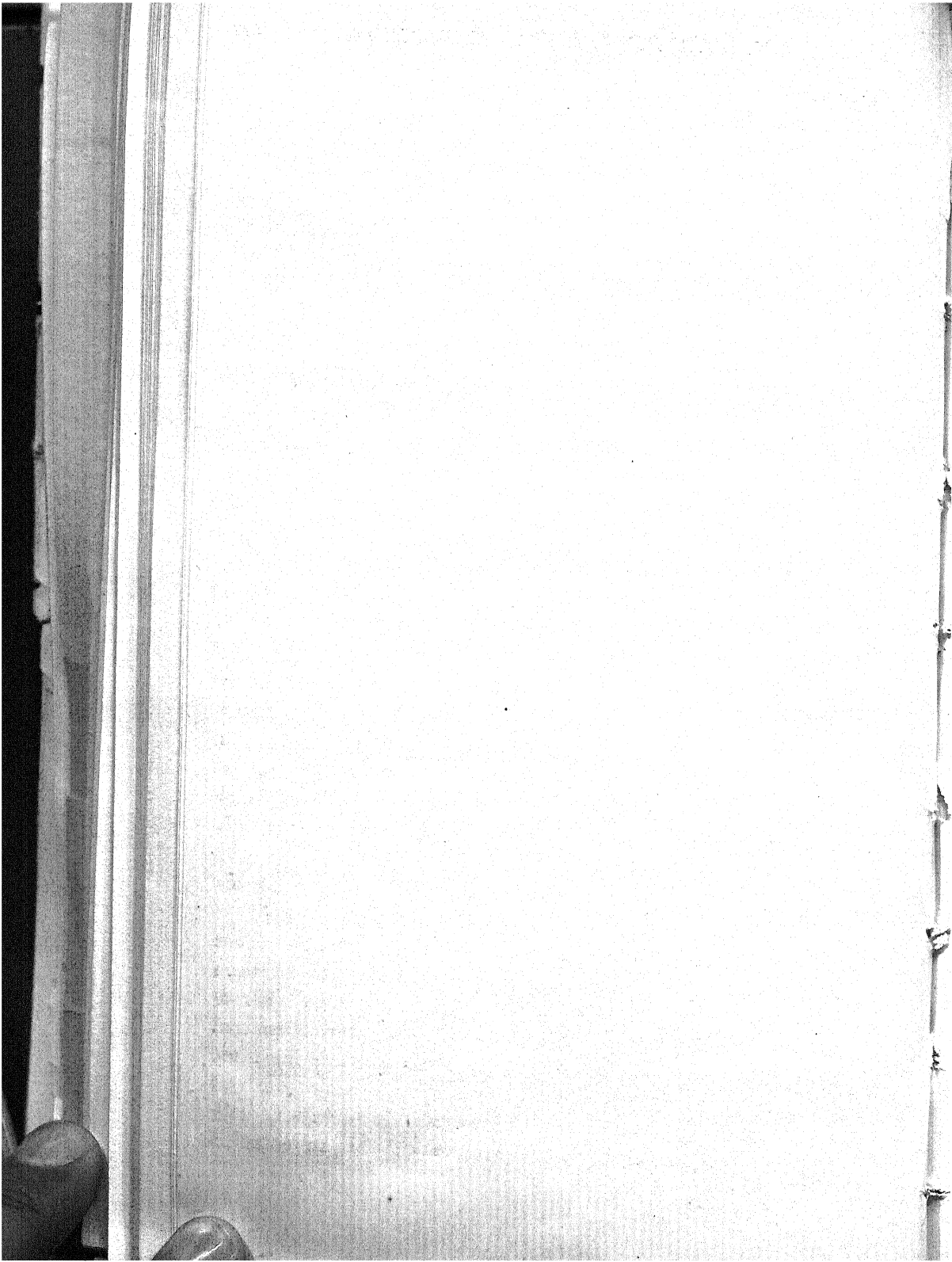
Bowers was first allotted to the ship's party but he soon made clear what sort of "bad job" he was. Absolutely indefatigable, as hard as nails, and with the most remarkable memory I have ever met, he had impressed Scott to such an extent before we reached Australia that he was transferred from the ship's party to the landing party. By the nature of the man he could not help but lead and by the end of the winter he was Scott's right hand and at the same time the most loved man on the Expedition. I must give you one incident which made a great impression on me. On account of his large nose Bowers was always called "Birdy." Most of you will probably know that Wilson led a party in the depth of winter to Cape Crozier where the party was very nearly lost through their tent being blown away in a blizzard. On their return I was sitting talking to Wilson when Scott joined us. We were discussing the journey and Scott said to Wilson, "But Bill, what should you have done if you had not recovered your tent, you could not possibly have got back." Wilson looked up into Scott's face in a way I shall never forget as he replied "I would have trusted Birdy to have got us out of anything." If the Indian Marine has got many more men like Bowers it is a fine service.

Captain Oates of the Inniskilling Dragoons has made for himself a name which will be known as long as the English language is spoken. A man who hated applause and public notice from the bottom of his being, he could not be got to any of the dinners and festivities with which we were sent off from England, South Africa, Australia and New Zealand. On the ship he was the carpenter's assistant. I remember



Copyright by Herbert G. Ponting.

CAPTAIN L. E. G. OATES.



that when we were in Melbourne a clergyman came on board and asked me if he could speak with Captain Oates, whom he had known in South Africa. I pointed out to him where Oates was helping the carpenter to shape a piece of wood with an adze. Oates looked for all the world in his working clothes like a common labourer and the amazement on the clergyman's face when he realized that I was not joking was exceedingly funny.

As soon as Oates took over charge of the ponies his real work for the expedition commenced, and that the ponies did the work for which they were taken south was entirely due to Oates. Scott thoroughly realized what he owed to Oates.

Probably the best indication of Oates' sterling qualities was to be found in the admiration and friendship which all the seamen had for him. None of us who knew him so well could wish for a better description of him than that of Scott's "a brave man and an English gentleman".

Dr. Wilson occupied an unique position on the expedition. He was Scott's chief personal friend, but more important still he was a personal friend of every one else. The few little personal difficulties which we had never grew to quarrels because of Wilson's care and tact, for we all carried our troubles to him to ask his advice and help. He was a wonderfully versatile man. A medical man by profession, he was the world's greatest authority on Antarctic birds and an artist of no mean merit. He was with Scott on his first expedition, and his knowledge of Antarctic life was surpassed by none. Our affection for him was shown by his nickname of "Uncle Bill".

Captain Scott. It is almost impossible to talk about Captain Scott. A man of many moods, through all of them he was the leader. To me his most remarkable characteristic was his passion for knowledge. I often wondered whether I, who had given my life to science had the same love for it that he had. He knew so much, and there was not a specialist amongst us who did not go to him to talk over the progress of his work, and to get his approbation

as he solved his little problems. Of nothing in my life am I more proud than to have worked with such a man and to have earned his praise.

You may think that my opinion of these men has been coloured by the circumstances of their glorious end. I can assure you this is not so, for my personal diary is full of reference to the impression they made on me before they started on their journey to the Pole. I firmly believe that England could not produce five men more worthy of representing her on such a venture.

It ought to give all of us here a feeling of intense pride that of these five men two had left India to join the expedition. For India to have such a large proportion of men in such a small party is a remarkable achievement, and all of us in the service of the Government of India can be proud of the way our colleagues acquitted themselves.

But to return to the Polar journey. We left the five men about 150 miles from the pole with plenty of food, full of hope and with every prospect of success. They pushed on doing good marches every day, until they were almost in sight of the pole. Then came the great blow. On the perfectly uniform surface of white a small black object was seen. Bowers, with his sharp eyes was the first to detect the ominous sign: in a short time there was no doubt, the object was a small black flag, fastened to an old sledge runner. They had been forestalled, the Norwegians had been first to reach the Pole!

Every one can realize the blow that this was to these men; but only those who knew Scott, and knew what value he put on reaching the Pole first, not for himself but for the British race, can realize the effect it had upon him. From the moment he knew that the Norwegians had been to the Pole, he had the feeling that he had failed, and that he was to return to England not as a great pioneer but as a defeated man.

The reasons for the disastrous return journey are often asked, to me no other answer is possible than that it was the sense of failure due to being forestalled.

I am not going to take you in detail through that sad homeward march. You all know the story in outline, how to the great surprise of his companions Evans,—the strong man of the party—first broke down. Then the pull of the four surviving men over the terrible Barrier surface with the temperature forty degrees below zero, when it ought, by all previous experience, to have been well above zero. There is no wonder that frost bites became daily experiences, disappointed men would not watch themselves for the first signs of the attack of the cold, they had too much to brood over, and so the face, the finger or the toe was badly bitten before it was noticed. Oates suffered the most and the time came when he realized that he was a drag on his companions and was robbing them of the only chance they had of safety. Then he did that deed which will make his name for ever known and the memory of which his regiment will always treasure as one of the greatest of its traditions. Nothing in the whole history of exploration is finer than the way Oates walked out to his death to give his companions a chance of their lives. The pity of it is that in spite of this great sacrifice they did not win through.

With only eleven miles to go to comparative safety, a blizzard arose which made movement absolutely impossible. For nine days, they were ready to start to do these eleven miles, but every morning found the same howling wind with drift snow so thick that it was impossible to make a start. As they had only two days' food when the blizzard started they were literally starved to death within eleven miles of plenty. We do not know exactly how and when the end came: but we know that it was met with the fortitude which we love to associate with the end of our great men.

Scott set out with two great aims; first to prove that the British race still has men capable of taking risks, of enduring hardships and of helping one another as our ancestors had done of old; and secondly to wrest from Nature some of those secrets which she has locked up in the icy fastnesses around the poles.

Each of these aims he accomplished to the full, and in the history of British Explorations Scott's name will be written very high on the roll of fame.

HIS EXCELLENCY THE VICEROY:—Ladies and Gentlemen.

I think that we are all deeply indebted to Dr. Simpson for the most interesting and graphic description that he has given to us tonight of the wonderful expedition in the Antarctic regions in which he played so honourable a part. We have been able to realise by means of his most beautiful and realistic photographs the great dangers—the appalling dangers—and difficulties that have been overcome by the members of the expedition as well as the discomforts which they all suffered—in spite of penguins and seals and other delicacies with which they appear to have regaled. We cannot help admiring the splendid courage and the magnificent characteristics of dogged determination by which every member of the expedition was inspired. Although the leader of the expedition and some of its most distinguished members have unfortunately not returned to us, they have nevertheless bequeathed to us a splendid example, which I am confident will be emulated in the future in the interests of science and to the advantage of the whole world. And there, after the interesting account that we have heard tonight and the many realistic photographs that we have seen, we may leave those distinguished men in their long sleep under the Southern sky. But may their example, of which all we Englishmen can be justly proud, serve as a source of inspiration to our fellow-countrymen in the future.

On behalf of all present here tonight I thank Dr. Simpson most cordially for the most interesting lecture that he has delivered here tonight.

Each
the histo
written v
His Exce

I thi
for the r
given to
Antarctic
We have
ful and
ling dan
the mem
which th
other dei

We can
magnifice
every me
leader of
ed mem
have nev

I am co
terests o

And ther
tonight

seen, we
sleep un

which a
source o

On
son mos
has deliv

A Federal India.

BY "CARDO."

In an interview which he had in England with Mr. Harold Begbie shortly after his retirement, Sir John Hewett is reported to have emphasised the importance to India of a government "in accordance with principle and not according to expediency. The foundational thing must be fixed principles." Now it will be generally admitted that this ideal, desirable though it may be, is particularly hard to realise or maintain in an eastern country. However law-abiding the Asiatic may be—and this is certainly a virtue which cannot be denied to the Indian—he possesses this quality more through fear of consequences than through any inherent respect for law and order. His own case is to him always exceptional. The issues at stake are so vital that they require separate treatment on particular principles of their own. The exception is not to *prove* but to *be* the rule. This tendency, universally prevalent as it is in India, constitutes a serious handicap on efficient administration. It vitiates public opinion to which, in these days of education and democratic representation, the government is increasingly bound to look for support, and thus reacts both on rulers and ruled. Now it has generally been the boast of the British administrator in the East that, whatever the faults of his system may be, it is at any rate based on sound general principles which are sufficiently strong to resist "special pleading" and sufficiently elastic to meet all ordinary requirements. Nor can it be denied that the claim is generally well-established. The object of the present writer is, firstly, to see whether Sir John Hewett's charge is true, whether Indian administration is in fact sliding from the true centre of general principles to the vacillating centre of expediency; and secondly what remedy to apply if remedy be required,

There is no doubt that Sir John Hewett's opinion is very widely shared by thinking Europeans in this country. The frequent acquittals by courts of appeal on purely technical grounds; the growing rigidity of audit; the ultra-humanitarian administration of jails; the admission of sentiment to a share in the solution of purely administrative questions; these and many other examples could be quoted to prove the point at issue. Even the commission which recently sat to consider questions of Indian currency and finance reported that, although they were not in favour of a gold coinage which departed from the British standard, they did not object to the adoption of a purely Indian coin if local sentiment demanded this course. The instance is relevant, for it is known that the Commission realised the primary importance of a gold currency as a factor in the equation of foreign indebtedness, and hence the necessity that it should be in a form readily acceptable in the money-markets of the world. And yet they admitted, or partially admitted, the force of an argument based purely on sentiment the acceptance of which would restrict the free operation of the chief principle at stake. It is not denied that arguments based on sentiment have frequently a value, and a very high value, of their own. This is particularly true in a country the bulk of whose inhabitants are untrained in business methods and prone to regard even politics from a purely parochial or even personal point of view. But sentiment, while it may and should give colour and tone and warmth to the actual task of administration, must clearly be kept in its proper sphere. Its function is subordinate and executive and it must never be allowed to supplant pure reason as the basis on which rest the true principles of Government. Let the administrators be sympathetic, but let not sympathy be allowed to divert the State from its "*cardines rerum*", the broad principles on which its administrative policy is based.

If these arguments are accepted, the question may well be asked, what is the chief importance underlying their application to Indian conditions? What are the particular causes

operating to divert attention from considerations of principle to considerations of expediency? Sir John Hewett has replied, practically, "Laxity in the choice of administrators, the conditions of whose service are not so attractive as they formerly were." The answer goes deep, but does it explain all? Is not the veteran administrator merely adding one more to the numerous instances which might be quoted—and a few of which have already been given—of departures from the broad principles underlying efficient administration? The selection of capable administrators rests, after all, on demand and supply. If the necessity of rendering the services attractive has been overlooked and the standard of recruits has in consequence fallen, is not this in itself a departure from principle and must we not go deeper still if we are to explain how or why the principle has come to be overlooked? In drawing attention to the need for a Federal India the writer hopes to place his finger on the fundamental defect of the existing system and to find a remedy for some at least of the difficulties of the situation. For to his mind the admitted sacrifice of principle on the altar of expediency is, after all, an indication of defective organisation rather than of flaws in the temperament or powers of the governing race. England is still sending to India of her best. The experts are no less expert—probably more so—than they used to be. The traditions of the various services are as powerful as ever they were. The personnel is probably, on the whole, much improved. It is the task before them which is becoming more and more difficult, and the reason is not far to seek. With the spread of modern culture and enlightenment, with the growing demand for educational facilities and the gradual dissolution of the old restraints of caste and race, the relative importance of the individual to the State is increasing rapidly in this country. The rights of individuals are becoming more and more clearly defined. Public opinion is becoming audible. These tendencies are doubtless due largely to our own educational policy and for this we are frequently blamed, the commonest

charge being that the uneducated should have been permitted to develop from below, not stimulated from above. Nothing is less proved or less probable. The general effect of Western contact with the East is a quickening of dormant interests, and the first, slow stirrings of a national life. Social and political claims are advanced and gradually, irresponsibly at first, no doubt, but more and more effectually, the voice of public opinion is heard, presaging important developments to come. With education must arise sooner or later a dawning sense of responsibility. Without it, the movement would merely have degenerated into a savage unreasoning demand for independence. We cannot therefore blame ourselves for the change. It is as well however to recognise its extent and to shape our policy to meet its requirements. The essential point to realise is that this growing importance of the individual, relatively to the State, is rendering the task of foreign administration in India increasingly difficult.

Now this phenomenon, which we may call the "educational" crisis, is one which faces all Governments with varying importance at various stages of their development. That they are usually able to meet it successfully is due, partly to their close and intimate knowledge of the real requirements of the situation, partly to the consciousness that in the last resort, the nation as a whole is more willing than not to follow their lead. Both these advantages are however denied to an alien Government administering an eastern dependency; or at any rate they are not so apparent. The result has been, so far as India is concerned, a tightening of the central authority and the tendency to over-centralisation which is so generally and so justly deplored. The central Government, more and more conscious of pressure from a public opinion with whose ideals it cannot wholly sympathise and to which it can never be more than partially responsible, can only fall back on its own solidarity to resist the demands made upon it. A further handicap is the pressure from political parties at Home, always on the look out for

real or imagined errors of their opponents. Under pressure from both forces, the central government becomes daily more apprehensive of mistakes; and mutual trust which should exist between it and its officers is replaced by suspicion. Administrative blunders are heavily punished and the attempt is made to check them in anticipation by a general centralisation of control. In the atmosphere of suspicion and distrust bred by over-centralisation, local officers lose that adaptability and sense of responsibility which are the mainspring of good administration and which ensure the maintenance of the spirit, and not necessarily but the letter, of the law.

To some extent the danger has already been met by decentralisation. Imperial Acts such as the Excise Act have been replaced by provincial measures with special provisions designed to meet special local requirements. The writer claims however that the decentralisation of specific functions is not sufficient. What is required is a radical change of system which will transfer from the central to provincial authorities not the mere exercise of particular powers, but general administrative responsibility, which would be recognised by all and from which there would be no appeal. In this view of the case, the solution would seem to lie in the resolution of this Empire of India into component parts, each directly responsible to the British Government, which would exercise a general but not too detailed control, and united under a common head for the discharge of purely Imperial functions; in a word, in the constitution of a Federal India, administered not as a single country but as a federation of provinces each possessing its own characteristics of language, race and industries and bound together not by iron bands tightening the responsibility of the central authority for every detail of administration, but by community of interests uniting and consolidating the whole.

II

Enough has already been said to show that the broad principles of government are bound to suffer if areas possessing entirely diverse conditions and individualities are gov-

erned by a central authority as if they formed a single administrative unit. This is the essential defect in the present system, a defect which every year of progress, moral and intellectual, is throwing into ever greater prominence. The assertion is not merely hypothetical. It is based on figures and facts. In climate, in race, in language, in castes and customs and industries, and above all in what may be called national temperament, the "countries" of Bombay, Bengal, the Punjab, Madras and Burma differ as vitally as do any of the greater states of Europe. Each is attempting to develop on its own lines in spite of union under a central government. In its great task of forwarding these separate progress movements the British genius is undoubtedly hampered by the necessity of conforming to a single standard and of maintaining a spurious ideal of homogeneity. The types are essentially distinct and demand separate development. It is the fact that this demand is growing increasingly articulate which renders reform necessary.

Let us now turn to the figures and allow them to speak for themselves. It is frequently pointed out that in area and population India closely resembles Europe excluding Russia.

The following statement compares the figures on simple lines. The statistics given are the latest available, although those of European countries east of the Adriatic are at present for obvious reasons conjectural:—

INDIA.			EUROPE. (MINUS RUSSIA.)		
Provinces, States and Agencies.	Area.	Population.	Country.	Area.	Population.
Ajmer-Merwara.	2,711	501,395	Albania -	12,000	2,000 000
Andamans & Nicobars. }	3,143	26,459	Austria- Hungary }	241,277	51,340,603
Assam -	53,015	6,713,635	Belgium -	11,373	7,516,730
Baluchistan -	54,228	414,412	Bulgaria -	42,000	5,500,000
Bengal -	78,699	45,483,077	Denmark -	15,042	2,757,076

INDIA.			EUROPE. (MINUS RUSSIA.)		
Provinces, States and Agencies.	Area.	Population.	Country.	Area.	Population.
Bihar & Orissa	83,181	34,490,084	France -	207,076	39,601,509
Bombay Pres- idency.	123,059	19,672,642	Germany -	208,780	64,925,993
Burma -	230,839	12,115,217	Great Britain	121,377	46,035,570
Central Pro- vinces and Berar. }	99,823	13,916,308	Greece -	46,472	5,303,543
Coorg -	1,582	174,976	Iceland -	40,497	78,479
Madras -	142,330	41,405,404	Italy -	110,623	34,686,683
North-West Frontier Pro- vince. }	13,418	2,196,933	Luxemburg	999	259,889
Punjab -	99,779	19,974,956	Montenegro	5,800	500,000
United Pro- vinces.	107,267	47,182,044	Netherlands	12,761	6,102,399
Manipur -	8,456	346,222	Norway -	124,130	2,391,782
Baluchistan } States. }	80,410	420,291	Portugal -	35,500	5,960,056
Baroda -	8,182	2,032,798	Rumania -	53,000	7,248,061
Bengal States	5,393	822,565	Servia -	34,090	5,000,000
Bihar & Oris- sa States. }	28,648	3,945,209	Spain -	196,700	19,588,688
Bombay States	63,864	7,411,675	Sweden -	172,876	5,521,943
Central India } Agency }	77,367	9,356,980	Switzerland- Turkey in }	15,950	3,753,293
Central Pro- vinces States. }	31,174	2,117,002	Europe }	12,600	2,755,000
Hyderabad -	82,698	13,374,676			
Kashmir -	84,432	3,158,126			
Madras States	10,549	4,811,841			
Mysore }	29,475	5,806,193			
North-West Frontier Agencies and Tribal Area. }	25,509	1,622,094			
Punjab States	36,551	4,212,794			
Rajputana } Agency. }	128,987	10,530,432			
Sikkim -	2,818	87,920			
United Pro- vinces States }	5,079	832,036			
TOTAL -	1,802,657	315,156,396	TOTAL -	1,720,233	318,827,297

Can it be denied that the languages, habits and ideals of the Indian races, are as diverse as those of European countries? The objection may be urged that India is subject to one controlling power and that this essential difference between European and Indian conditions completely vitiates the comparison. Superficially, it does. But the fact remains that India itself is not homogeneous and that true progress cannot be attained so long as it is governed as a single country. Resolve it into convenient administrative units following as closely as possible the limits of race and national requirements and it will still be practicable by Federation to maintain central control. The responsibility of each of the provincial authorities will be complete while their essential solidarity is maintained.

The idea of resolving India into a few large Presidencies is by no means new. Readers of Trevelyan's *Life of John Bright* will remember the following passages in which the great patriot summarises his views on the subject. They are quoted here although, as will presently be seen, subsequent experience has shown that the reorganisation could not well follow the broad and simple lines indicated by Bright.

"I would propose," he writes, "that we should have Presidencies, and not an Empire.....I would propose to have at least five Presidencies in India, and I would have the governments of those Presidencies perfectly equal in rank and salary. The capitals of those Presidencies would probably be Calcutta, Madras, Bombay, Agra and Lahore. I will take the Presidency of Madras as an illustration..... It has a Governor and a Council. I would give to it a Governor and a Council still, but would confine all their duties to the Presidency of Madras, and I would treat it just as if Madras was the only portion of India connected with this country. I would have its finance, its taxation, its justice, and its police departments, as well as its public works and military department, precisely the same as if it were a State having no connection with any other part of India, and recognised only as a dependency of this country."

And again:—

“If the Governor of each Presidency were to have in his Council some of the officials of his Government, some of the non-official Europeans resident in the Presidency, and 2 or 3 at least of the intelligent natives of the Presidency in whom the people would have some confidence, you would have begun that which will be of inestimable use hereafter—you would have begun to unite the government with the governed.”

“While the government (by Presidencies) would necessarily or probably be much better, you would teach the people of these Presidencies to consider themselves, as generations passed on, as the subjects and the people of that State.”

It will be observed that Bright had grasped one of the essential reasons on which the arguments in favour of government by Presidencies is based—a closer unity between the government and the governed. Where so much depends, as in India, on purely personal rule, it is the chief defect of the present system that the subordination of the immediate rulers—the Local Government—to the central authority of the Government of India should be as pronounced and as detailed as it is. This subordination, extending even to minor details of administration, naturally encourages the people to look beyond their immediate superiors to the higher authority which holds in its own hands the power to redress imaginary wrongs and is interested in maintaining its subordinate position. The fact that the lower authority, while constituted on lines very similar to the higher organisation and possessing a very similar personnel—the best available talent official and non-official, European and Indian—is in closer touch with local conditions, does not deter the Indian from gambling on the off-chance of a successful appeal. He loses nothing by the attempt and may occasionally win a favourable order prompted not so much by the desire to give justice as by anxiety to conciliate public opinion or to assert authority. So long as the opportunity of appeal is given, and so long as the appellate

power is exposed to the temptation of offering not the strictest justice but a sympathetic verdict, the right of appeal will be exercised with increasing frequency and the general principles of administration are bound to suffer. What is required is surely a definite devolution of powers, as absolute as can with safety be made, to *the highest authority in closest touch with local conditions*, to whom the people would look as the ultimate court of appeal. By a system of Presidencies each governed by an experienced administrator chosen and sent out by the British Government and vested with absolute discretion (subject to the support of his Council) in the ordinary course of administration, the population of each Presidency would look up to, but not beyond, its own Government; the relations between rulers and ruled would be closer; and the present straining of principles to meet requirements beyond the scope of local conditions would cease.

It has already been pointed out that Bright's conception of government by Presidencies requires modification in view of subsequent experience. The principal modification is that the disintegration should not be carried too far. It might, as observed extend to departments of which uniform administration is not so essential as administration adapted to local requirements, e. g. education, sanitation, public works, police and excise. For these the responsibility of the Presidency might be subject only to the general control of the central (that is to say, the Federal) Government. There are however some administrative functions which would lose by devolution and in the exercise of which uniformity throughout the continent is essential in the interests alike of government and the governed. These reservations are necessary, owing firstly to the peculiar circumstances in which India finds herself as a portion of the British Empire, dependent on the United Kingdom; and secondly to economic considerations. India's dependence on England cannot, for obvious reasons, be diminished and her strength lies in union with the Empire for all purposes of offence and defence. This union would naturally be weakened if military and naval control were de-

centralised and therefore Defence would remain in the hands of the central authority. The economic considerations are more complex. It is a well-known principle that commercial success depends largely on cheap output, and that this result is generally secured by efficient industrial organisation. Now while the general details of such organisation may, and ordinarily must, be left to private enterprise, the State is able to assist in more ways than one, even in a free-trade country. It will not interfere too actively, by a protective tariff or by subsidies, for fear of creating artificial conditions on which local industries will come too much to rely. But it will ensure adequate facilities at a reasonable cost for fixity of exchange, for cheap communications, for the realisation of debts, and for the punishment of commercial immorality. The efficient organisation of Communications, Currency and Justice are essential to industrial progress and this organisation must be homogeneous. There would at the same time be no need to disturb the existing system under which the major Native States have direct relations with the Government of India through Agents to the Governor-General. To the central authority, then, might be reserved control of Defence and Foreign Relations, of Posts and Telegraphs, of Railways, Customs, Currency and the collection and dissemination of commercial and criminal intelligence. Uniformity of legal principles and procedure might, as now, be ensured by the Penal and Procedure Codes and by the ultimate control of the Privy Council. If these principles are accepted, a case may be made out for some form of reorganisation which admits the co-existence of independent Presidencies, each administered by a Governor in Council, and a central Government of India consisting of the Governor-General and his Council; the former responsible for their local administrative policies and subject in this respect only to the general control of the central authority; and the latter responsible, under the general control of the British Government, for Foreign Relations, Defence, Commerce and Communications. It is suggested that the simplest form which this organisation would take would be that of a Federal Government.

III

It is impossible for obvious reasons to work out in detail the precise system of Federal administration best calculated to cope with the difficulties to which India is at present exposed. The limits of a single paper do not admit such a course. At the same time there are some considerations which repay scrutiny. In the first place, what would be the financial relations between the Federal authority and the Presidencies, and between India and England? It is reasonable to suppose that the Presidencies should contribute to the Federal exchequer on a scale proportionate to their resources and to the benefits obtained from military and naval protection, communications, etc. It is however reasonable also to conclude that so long as these contributions were regularly remitted the Federal authority would be satisfied and would not be called upon to exercise detailed financial control. Such control need only be exercised on proof that it was rendered necessary by financial stringency or by reckless expenditure on the part of any of the Presidencies. In general, the Federal Government would be satisfied with supervision over the local budgets. Audit would acknowledge the supremacy of the Presidency Government, possessing only a right of reference to the Federal authority on departures from general principle such as encroachments on reserve or abnormal variations from budget estimate. The finance of the Federal government would be subject to similar control from Home. Taxation would naturally vary in each Presidency with variations in the resources of inhabitants. At the same time a certain degree of uniformity would be essential, and this leads to the second point for considerations. Broad questions of policy would necessarily arise which demanded more or less uniform solution throughout India, although not requiring detailed supervision by the central government. In their administration of the land-revenue, of education, etc., the Presidencies would seek to be in close touch with each other, partly that all might profit by the experiences of each, partly that abnormal

variations between neighbouring Presidencies might be avoided. To deal with such questions a standing committee would be necessary, consisting of representatives of each Presidency. References to the Committee would only be made on broad subjects of general interest and the proceedings would be subject to report to and, in the absence of unanimity, to confirmation by the Government.

A third difficulty which arises is one which has probably suggested itself already to the reader—that of selections for the Services. Now on this question also a liberal interpretation of the duties and responsibilities of the Presidency Governments should be feasible, and there is no reason to imagine that the trust would be betrayed. It is suggested that selections for the non-military Services should be made entirely at the discretion of the authorities concerned, Federal or Presidency. On the general principle that each would be responsible for the administration of the departments already indicated, it is a logical conclusion that each would know what type of officer would be required to carry out the particular duties imposed and at what rate he should be paid. The rates of time scales in the various Presidencies would doubtless form a suitable subject for discussion in inter-Presidency Committees, as serious variations might cause inconvenience or discontent. But with this proviso it would not be unreasonable to allow each authority to appoint its own officers from within its jurisdiction, or by application to the Secretary of State, according to the necessities of the service. An objection which might be urged to this devolution of power is that it might lead to fluctuations in the number of appointments offered in the United Kingdom, and consequently to fluctuations in the standard of efficiency of recruits. But, taken over the whole of India, serious fluctuations would probably be rare and the general demand for officers from Home would probably be more or less steady. It would certainly tend to this result as time passed and experience was gained. One result would probably be a concentration of effort on the best me-

thods of educating Indians with a view to turn out more efficient candidates for the public services. Education would be directed not so much towards the inculcation of a general standard of culture as towards the production of particular types of Indian best suited to the particular requirements of the Presidency and best fitted to assist in its administration. In this connection it may be mentioned that Bright hoped to see more extended employment of Indians in the Government services, and there is little doubt that he had this result in mind when formulating his scheme—"I am very anxious," he said in the speech on the Bill which introduced the competitive system for admission to the Indian Civil Service, "to see a very much wider employment of the most intelligent and able men amongst the native population.....The Right Hon'ble Member for Edinburgh (Macaulay), in proposing the Indian Bill of 1833, dwelt on one of its clauses, which provided that neither colour, nor caste, nor religion, nor place of birth should be a bar to the employment of persons by the Government; whereas, as a matter of fact, from that time to this (June 1853), no person in India has been so employed who might not have been equally employed before that clause was enacted." We have travelled a long way since 1853. Indians have been admitted in larger numbers, to a share not merely in the Legislative Councils but also in the various services. It may at once be conceded that, if non-official majorities are to be retained in provincial legislatures under the Presidency scheme, some measure would be necessary to ensure that vested interests did not obtain a preponderating voice in local legislation. The existing safeguards, the supervision of the central Government and the right of veto possessed by the Home Government, would presumably be retained. The system of Executive Councils to which Indians are admitted has been extended to provinces other than Presidencies and there is no reasonable doubt of its success, It might equally well be adopted for the prospective Presidencies also.

It may perhaps be urged, in objection to the scheme, that the devolution of powers and responsibilities has been

suggested on too generous a scale; that each Presidency would at once set off on its own particular programme of reform without sufficient forethought or calculation of the results; and that the existing system provides adequate consideration of each step and insures against mistakes. There is however the danger that consideration may be—is being—carried too far and that the fear of mistakes induces excess of caution and those counsels of expediency which, as already stated, undermine the strict observance of general principles. Are not general principles after all founded on the experience gained from mistakes and although mistakes cannot be deliberately courted, is it not wiser to admit the possibility of error as a reasonable price to pay for ultimate success? The existing anxiety to avoid mistakes is no doubt largely due to Radical attacks in Parliament and to inquiries instituted in consequence. Were the responsibility for local administration completely decentralised these criticisms would have no more locus standi in Parliament than criticisms of the acts of the self-governing colonies at present have. They would be diverted, as equity surely demands, to arenas in which full local knowledge would guarantee either prompt redress or vindication, the Legislative Councils of the Presidency or Federal Governments. But the fear of mistakes is also due to the necessity which has planted an alien power in Indian soil. Rulers and ruled have yet to “find” each other more completely than at present, for it is incumbent on the administrators to court the loyalty and adherence of the masses without losing their own sense of perspective, their pursuit of the practical and the efficient. These are the ideals which the Presidency scheme attempts to realise. It seeks to bring rulers and ruled into closer touch, to emphasise their inter-dependence. From this relationship will grow, it is hoped, a closer fellowship, a greater community of interests, than that now obtained. Under the present system the Indian can see above him only the vague shadow of a dominant power whose objects he vainly strives to realise. Bring that power a stage or two closer to him by

eliminating intermediate authorities, and he will be face to face with the fact that a foreign government can be both kindly and practical, both efficient and sympathetic.

It is not within the scope of the present paper to indicate more than the outlines of the scheme. It is impossible to suggest the actual lines on which the Presidencies may be constituted. If it were decided to adopt the scheme with as little alteration as possible to existing boundaries the following reorganisation might be suggested. To unite the Punjab with the North-West Frontier Provinces, and Baluchistan, Assam with Bengal, Bihar with the United Provinces, Chota Nagpur and Orissa with the Central Provinces, Coorg with Madras and the Andamans and Nicobars with Burma. This would give seven distinct Presidencies with the following areas and populations:—

<i>Existing Provinces or areas</i>	<i>Area in square miles</i>	<i>Population following the 1911 Census.</i>
Bombay Presidency	... 123,059	... 19,672,642
Bombay States	... 63,864	... 7,411,675
Total	... 186,923	... 27,084,317
Madras	... 142,330	... 41,405,404
Madras States	... 10,549	... 4,811,841
Coorg	... 1,582	... 174,976
Total	... 154,461	... 46,392,221
Bengal	... 78,699	... 45,483,077
Bengal States	... 5,393	... 822,565
Assam	... 53,015	... 6,713,635
Manipur	... 8,456	... 346,222
Total	... 145,563	... 53,365,499

<i>Existion Provinces or areas</i>	<i>Area in square miles</i>	<i>Population following the 1911 Census.</i>
Central Provinces and Berar...	99,823	... 13,916,308
Central Provinces States ...	31,174	... 2,117,002
Orissa ...	13,743	... 5,131,753
Chota Nagpur ...	27,077	... 5,605,362
Orissa & Chota Nagpur States	28,648	... 3,945,209
<hr/>		
Total	... 200,465	... 30,715,634
<hr/>		
United Provinces	... 107,267	... 47,182,044
United Provinces States	... 5,079	... 832,036
Bihar	... 42,361	... 23,752,969
<hr/>		
Total	... 154,707	... 71,767,049
<hr/>		
Punjab	... 99,779	... 19,974,956
Punjab States	... 36,551	... 4,212,794
North-West Frontier Province	13,418	... 2,196,933
North-West Frontier States ...	25,500	... 1,622,094
Baluchistan	... 54,228	... 4,144,112
Baluchistan States	... 80,410	... 420,291
<hr/>		
Total	... 309,886	... 28,841,480
<hr/>		
Burma	... 230,839	... 12,115,217
Andamans & Nicobars	... 3,143	... 26,459
<hr/>		
Total	... 233,982	... 12,141,676
<hr/>		

Compared with European States excluding Russia, it will be observed that only one of these prospective Presidencies, the Punjab, exceeds in size the area of Austria

Hungary, while only one, the United Provinces, would possess a population in excess of that of Germany. If seven presidencies were adjudged too many, the number could be reduced to six but existing boundaries would be more seriously disturbed. Retaining the Madras Presidency with Coorg incorporated, and the union of Burma with the Andamans and Nicobars, the remaining four Presidencies might be constituted as follows:—

<i>Existing Provinces or areas.</i>	<i>Area in square miles</i>	<i>Population following the 1911 Census</i>
Bombay (minus Sind) & States	139,937	... 23,570,882
Central Provinces & Berar ...	99,823	... 13,916,308
Central Provinces States ...	31,174	... 2,117,002
Total	... 270,934	... 39,604,192
Bengal & States Assam } & Manipur }	... 145,563	... 533,65,667
Orissa	... 13,743	... 5,131,753
Orissa States	... 28,046	... 3,796,563
Total	... 187,352	... 62,293,815
Punjab & States, } North-West Frontier } Province & States } Baluchistan & States }	... 309,886	... 28,841,480
Sind	... 46,986	... 3,513,435
Total	... 356,872	... 32,354,915
United Province & } States & Bihar }	... 154,707	... 71,767,049
Chota Nagpur	... 27,077	... 5,605,362
Chota Nagpur States	... 602	... 148,646
Total	... 182,386	... 77,521,057

It is useless, however, to speculate on the actual line which the reorganisation would most effectively follow. Suffice it to say that the scheme would seem to have much to commend it, even though the arguments in its favour possess at present a purely theoretical value. It is at all events not beyond the range of practical politics. And did not the famous despatch of the 25th August 1911 to the Secretary of State for India, recommending the transfer of the headquarters of the Government of India to Delhi, draw attention to the possibility of gradually giving the provinces a larger measure of self-government, "until at last India would consist of a number of administrations, autonomous in all provincial affairs, with the Government of India above them all, and possessing power to interfere in case of mismanagement, but ordinarily restricting their functions to matters of Imperial concern"? The passage is left to bear its obvious interpretation and not that recently imposed upon it in Parliament.

IV

To recapitulate, we have arrived at a system which recognises a group of Presidencies united under a single Federal authority. The Presidencies have absolute powers, subject only to the general control of the Central or Federal, Government and to mutual consultation on subjects such as taxation, excise, official salaries, etc., on which some degree of co-ordination is essential. The Federal authority is responsible, subject to Home control, for departments in which homogeneity is indispensable, Defence, Communications, Commerce and relations with Foreign Powers including the major Native States. The Presidency and Federal Legislatures would deal with the departments with which they are respectively concerned while broad legal principles would receive expression in Federal legislation and their application would be subject as at present to the general control of the Privy Council. The Home Government would provide facilities for appointments to the public services but

would not restrict the discretion of the Presidency or Federal administration to make appointments in India should suitable candidates be available in this country.

The question may now be asked, to what ultimate conclusion do these proposals tend? Are they formulated with a view to forward the training of Indians in self-government by the introduction of a system under which the governed races may hope to acquire a greater share of the government? The answer can only be in the negative. The only possible criterion of the right to govern is fitness and capacity to govern—efficiency in its broadest and highest sense. Until the Indian can compete with the Briton on absolutely equal terms at his own game—administration, and can prove his superior capacity in a fair field with no favour, he must be content to retain his position of dependence. The Presidency scheme merely attempts to facilitate the task of administration and leaves to national character and training the decision as to fitness for the task. When the Indian has proved his superior capacity as an administrator, then and not till then will the necessity for British rule have passed away. John Bright himself recognised this fundamental fact—there was evidently talk in his day also of our leaving India—but his scheme was formulated purely from the point of view of efficiency. “I accept the possession of India as a fact,” he says. “There we are; we do not know how to leave it, and therefore let us see if we do not know how to govern it.” Lord Cromer has also dealt with the same question in his “Ancient and Modern Imperialism.” The passage represents British Imperialism so strikingly in its wisest and broadest aspect that the writer may be pardoned for quoting it in full:—

“Some Englishmen appear to think that our duty (in India) lies in the direction of developing self-governing principles all along the line, and that we must accept the consequences of their development, whatever they may be—even, I conceive, to the extent of paving the way for our own withdrawal from the country. I do not say that any English

men would regard this final conclusion with pleasure, but possibly some would be inclined to accord complacent acquiescence to what they would consider the inevitable. Within reasonable limits, I accept the interpretation of our duty. I do not conceal from myself that the consequences may be serious, in so far that they may materially increase the difficulty of governing the country; but I altogether reject the extreme consequence of possible withdrawal. I deny that such an ultimate result is inevitable—at all events within any period of which we need at present take account—unless we ourselves weakly acquiesce in the inevitability. Let us approach the subject with the *'animus manendi'* strong within us. It will be well for England, better for India, and best of all for the cause of progressive civilization in general, if it be clearly understood from the outset that, however liberal may be the concessions which have now been made and, which at any future time may be made, we have not the smallest intention of abandoning our Indian possessions, and that it is improbable that any such intention will be entertained by our posterity. The foundation-stone of Indian reform must be the steadfast maintenance of British supremacy."

In short, it is our duty to give India of our best, for whatever her articulate demands may be the unvoiced demand of her peoples is for sympathetic administration on broad and statesmanlike principles and through the most practical and efficient organisation that can be devised. By all means let self-governing measures be introduced where these are practical and encourage identity of interests between rulers and ruled. But deliberately to encourage aspirations which cannot be realised, as Lord Cromer says, "within any period of which we need at present take account," is needless and cruel, and can only increase the difficulties of those who follow after. Such a policy may discount present troubles, but the rate of discount is appalling and can only lead in the end to broken faith and political bankruptcy. Surely it is better carefully and wisely to review the situa-

tion. The trouble may be due, as the writer has attempted to prove, chiefly to defective organisation, and if this is so it were surely wisest to admit the defect, and revise the system, confident that as a nation we are still able to retain the affections we have won. If we lose faith in our system of administration, we have only to remedy the flaws; however radical they may be they cannot be irreparable. In postponing the remedy we run the far graver risk of losing faith in ourselves.

[NOTE:—Since the above was written and made over to the Editor of the Journal there has come to the writer's notice an anonymous pamphlet recently published by Messrs. Thacker, Spink and Co., entitled "Indian Administration," in which a system of Government by Presidencies is formulated. It need scarcely be explained that the coincidence is purely fortuitous. A comparison of the scheme published in the pamphlet with that now set forth in the Journal will at once show that neither has been indebted to the other in any way, in conception or treatment.]

The Study of Military History.

*A lecture delivered at the United Service Institution of India
on Monday, 21st July 1914.*

BY

BRIGADIER GENERAL WALTER BRAITHWAITE, C.B.,
General Staff, Commandant Staff College, Quetta.

HIS EXCELLENCY THE COMMANDER-IN-CHIEF
IN INDIA IN THE CHAIR :

H. E. the Commander-in-Chief introducing the lecturer said :—

“Ladies and gentlemen; it is hardly necessary for me to introduce General Braithwaite to you, he is known to most of you personally and, I think, to everyone else by reputation. All I need perhaps say is that I am sure I express the general feeling when I say that you hear with regret that this is probably the last lecture he will give here as Commandant of the Staff College.”

THE STUDY OF MILITARY HISTORY.

We often hear people allude to the science and art of war. And, at one time, there used to be a considerable amount of discussion as to whether war was a science or an art, or whether it was more of a science than an art, and vice versa.

We will not argue the point this afternoon, but accept the fact that it is both; and we will proceed to ascertain what we can learn from a study of the science of war to help us to practise the art of war.

But first, we need to ask ourselves three questions:—

What is the meaning of Science? What is the meaning of Art? What is the meaning of War?

The first two questions are easily answered with the aid of any dictionary—

Science. Knowledge, systematic and formulated knowledge, organised body of the knowledge that has been accumulated on a subject.

Art. Skill, human skill as opposed to nature; thing in which skill may be exercised.

In short, "Science seeks out laws, establishes and classifies facts; Art selects, combines, and produces;" or

The art of war is the application of the principles so easily grasped in reading of the science of war.

According to Ruskin, in his suggestively thoughtful essay on war, war is not only an art, but "is the foundation of all great arts", as well as "the foundation of all the high virtues and faculties of men." We might almost say that the science of war is the theory of our profession and that the art of war the practice.

And, as I need hardly remind an audience such as this, we are not likely to be able to make ourselves real practical soldiers unless we know the theory on which the adequate performance of that practical art depends.

We have still the question to answer—What is war? Well let us alter the form of our question, slightly, to this:—"What is modern war?"

It is not, I need hardly say, any of our small wars—as Caldwell calls them—against savages, or against the tribes on our frontier. It is not a war such as we lately waged in South Africa, a form of war unlikely to recur, in other countries at any rate. It is well for us who have fought in such 'small wars' to be under no misapprehension on this point, and, while getting all the experience we can from such campaigns and expeditions, not to be led away by false ideas on strategy and tactics.

Undoubtedly, there are lessons, and valuable lessons, to be learnt from all these experiences—and not the least use-

ful one is the fact of being shot at, an experience denied to the soldiers of most first-class powers with the same frequency, at any rate, as ourselves. But the modern war for which we need to prepare is a far more serious business than the conquest of the two Boer republics, or the subjugation of turbulent tribes. It is a conflict with a Continental power or powers and, therefore, with a nation in arms.

The French Revolution swept away the professional armies in every continental country—we alone, of the powers that took part in the struggle with Napoleon, retain our professional army. The war lately waged between Russia and Japan is modern war; 1870 is modern war. Both were wars which required the devotion of the entire population of the conquerors to carry it to a successful conclusion.

There were, viewed in the light of military history, no very new or startling developments in the war in the Far East. As carried out by Japan, it was modern war such as has been preached by the leaders of military thought in Europe during recent years.

But, as every year, science improves the armament—the instruments of war—so, every year, does the art of war require to be more deeply studied, and more closely and intelligently understood and applied.

“Modern war is no longer the exclusive affair of the court and cabinet. It is an affair of the people, and unless the people interest themselves in all that concerns the preparation and the conduct of war, their security is imperilled, and their future mortgaged.”

In Manchuria it was found that “in proportion as the incidents of a battle became more complicated, so does the independent action of commanders of units increase in importance”. “Harmony in the modern battle is only possible when the unity of the objective is correctly appreciated and intelligently followed by all”. That is the observation of a Russian officer who saw much hard fighting in the late war.

It is no new matter. “The useful lessons are to be found chiefly in the fresh confirmation of old precepts and

examples." The same conclusions were come to in 1870. We also learned, afresh, the same fact in 1900. It is merely the recognition of the fact that, once committed to the fight, the commanders of units in the firing line are the responsible people, and that therefore those commanders if they are to carry out their role intelligently, must have been trained on sound principles. Where do we find these principles? these principles which are to govern our practical action in the highest test of the practice of our profession—WAR?

We can find them and learn them in two ways:—

1st.—By actual experience.

2nd.—By study.

The first way is the best, but the opportunities for acquiring the necessary training are only but rarely vouchsafed to us.

The second method is ever present, ready to our hand if—we will employ it. And it is this second method, the study of military history, about which it is proposed this afternoon, to offer some ideas for your consideration.

"War is not an exact science," Jomini reminds us. "It has no rules of war." But there are lessons from the past which will help us in the present, and in the future.

There are certain principles deduced from the study of past campaigns which have come to be accepted as 'rules' by some people—very dangerous people these—but by others as examples set forth for our learning—to read, mark, learn, and inwardly digest—so that when confronted with the fog of war, we may be able to do something more than merely grope our way blindly, hoping to find a way out into the light.

These principles are sign posts, so to speak, which show the road which great generals, in the past, have trod with success. If we pass by these sign posts without taking the trouble to read the directions thereon, we are likely to find ourselves on tracks and lanes which will take many a devious turning before—if ever—we can hope to emerge on the highest road to success.

Military history embraces the experience of all men and all time. Surely then here is a reliable guide? We can learn the science, and see how it was applied. Next to being able to apply the science ourselves, this is surely a heaven-sent opportunity? Merely to read? But there is more than the mere mechanical process of reading required. Thought is required, and a diligent search for the "why" and the "wherefore," a knowledge of strategical and tactical principles, and power to deduce the lessons which are "writ large" on its pages.

There is little that is dull in this study of military history. It is, indeed, a most fascinating subject. Every schoolboy knows Napoleon's advice, "Read and reread the campaigns of the great captains." And who were the captains to whom the great Emperor alluded?

Certainly not the soldiers of his day, not most of them even those of days as near to his as his times are to ours.

They were the campaigns of Hannibal, and of Caesar; as well of Gustavus Adolphus and Turenne. It was, as Henderson reminds us, the 'Art of Command' he had in his mind when he penned this advice. Strategy and Grand Tactics, the art of manœuvre, generalship. This was what Napoleon found useful in the campaigns of the great captains.

And this is what we can learn from a study of the campaigns of the masters of war, such as Gustavus Adolphus, Frederick the Great, Napoleon, Wellington, Lee, Grant, Moltke and Oyama.

"In the practice of our profession, whatever it may be, we are either very presumptuous, or very foolish, or both, if we do not endeavour to model ourselves, so far as our respective capacities or limitations permit, upon the examples of the great masters of the art or craft we have elected to follow."

It is, indeed, by the intelligent appreciation of the means used by the great captains of history to win their battles that we are able to deduce the principles—those Sign-posts to which I have already alluded—which, if correctly applied will enable us to achieve success.

There are countless lessons we can learn from a study of military history. Let us, however, this afternoon, confine ourselves to a consideration of the subject under the following four heads.—

- (a) The duties of command,
- (b) Staff duties,
- (c) Regimental duties,
- (d) Our profession generally.

(a). *The Duties of Command.*—How are we to learn these supremely important duties from military history?

I daresay many of my audience have seen the report of a conference of staff officers, held under the direction of the Chief of the Imperial General Staff at home in January of this year?

In the discussion on this subject several methods were advanced; but we, this afternoon, are concerned with the consideration of one only, *viz.*, military history.

Sir William Robertson, till lately Commandant of the Staff College at home, and now Director of Military Training, laid great stress on the need for more systematic training and instruction in the duties of command.

How can we learn, and teach, something of this all-important branch of military education from military history?

The Commander's position, activity, personal reconnaissance, delegation of authority, rapidity of forming a plan, determination to adhere to it, issue of orders directed by the commander himself, are some of the matters which the director of military training considers need attention. And General Gough, who opened the discussion, grouped training for command under three heads:—

- 1. Character training;
- 2. Theoretical training without troops;
- 3. Practical training with troops.

And, if we also adopt these headings, I feel sure that all will agree that the study of military history will greatly assist the student in the first two groups.

The study of military history is truly only a means to an end, and all study, to be of value, must have a practical

aim. Well, then, you will say, military history help in regard to character training? Why not? Surely it can be a most valuable aid.

If we look below the surface, and we really need not look very far, we can at any rate find out the causes of failure in commanders. And nine times out of ten what are those causes? Irresolution, want of determination, lack of character, inactivity, ability to determine on a plan perhaps, but utter inability to stick to that plan.

Nearly all the matters General Robertson mentions.

The following quotation illustrates my point regarding the value of military history from the point of view of leadership. "Frederick the Great had been a keen student of history, there is nothing which trains the high grade of intellect and the sturdy character which a good leader must possess as birthright, as does the study of the deeds of the great captains, for out of these alone can that knowledge be gleaned, or that inspiration be caught, which constitutes the value of the art. The camp and drill ground, however essential, teach but the handicraft, not the art, of war."

Well, we are told, on Biblical authority, "all things are written for our learning." Let us go, then, to military history.

Take any of the campaigns most studied to-day.

1866. Benedek, sitting still, irresolute, inactive, waiting, without a plan, for the Prussians to envelop him—result, Koniggratz.

1870. First Napoleon III, full of a faltering boldness, later filled with a distracted irresolution; possessing a plan (at the commencement) not strategically unsound, but for various reasons—impossible to go into now—not capable of being put into execution; finally, when things are in a hopeless muddle, handing over the command to a gallant soldier, mentally and physically incapable of bearing the burden. A man who, in the midst of one great battle, busied himself with directing a battery, and, in another, placed himself where he could see practically nothing, and from

which situated as it was at the extreme flank of a long position—it was difficult to receive or send reports or instructions—result, Metz and Sedan.

1904. A highly educated soldier, brimful of experience in war and in peace, in the prime of life, but whose chief characteristics as a commander—disclosed by the events of the war—that search light of reputations—were, again that fatal irresolution, and that inability to adhere to a plan (there was no inability to make a plan, Kuropatkin made plans but he never adhered to any!).

All this we can see, plainly, in military history in regard to the characteristics of the Austrian, French and Russian commanders, and, therefore, faithfully reproduced in subordinate commanders.

And on the other side, what do we see? Not much activity on the part of the conqueror of Koniggratz and Sedan—physical activity, I mean—but a superabundance of mentality, a real knowledge of the value of delegation of authority, grim determination, once having made the plan, to adhere to it, etc., etc.

And what is Oyama's outstanding characteristic, if it is not summed up in the one word resolution—that most brilliant quality in a commander?

If ever a commander fulfilled Clausewitz's dictum that "first among all causes of victory is the pursuit of a great object with energy and determination", Oyama is the man.

Equally faithfully were the commander's iron will and determination reflected in the conduct of his subordinate leaders and troops.

If we can read all this in military history—and we can—and if we reflect thereon, and if we are not just content to note the fact, but if we follow out what resulted from the first signs of irresolution, inactivity, change of plan, etc., etc., and see the chances that were thereby given—even if not always accepted—to the enemy, and see the effect on the fighting value of the troops under the command of the irresolute general, are all these signs, examples, lessons, going to be thrown away on us?

Does it not make us determine that, having made a plan, we will stick to it, even though we may think of, or be shown, a better? "The best is the enemy of the good" is shown us over and over and over again in the history of every campaign.

And is this not going to be a help in the strengthening of our character, our resolution, our determination? Shall we not get it burnt into our brain that we must make up our mind and, having done so, exercise all our will power to prevent ourselves changing?

I, for my part, am convinced that a proper study of military history is one of the most valuable means of character training there is, if only for the reason that the pages of military history teem with the awful examples of disaster which inevitably befall the man—the commander—who has not trained himself to withstand the insidious temptation of the thousand silent voices counselling caution, or prudence, when boldness only is required.

Into the value of military history as a training in the duties of command "in theoretical training without troops" I feel I need not go. It is evident.

But our study, in this connexion, must not be, in any respect, superficial, or we run the danger of doing ourselves more harm than good.

And, especially, must we be on the lookout for the effect of the moral qualities, human nature, in war. The mere fact that such and such a manoeuvre was successful will not help us very much, unless we realize the principle that underlies that manoeuvre, and why—in the particular case,—it was adopted. And especially must we be careful in this respect when the victorious general has run great risks to achieve his end.

May I quote Henderson?—

"I would lay special stress on the fact, which none can gainsay, that human nature, the paramount consideration of all questions of either tactics or strategy, remains unaltered, and the art of generalship, the art of command, whether the forces be large or small, is the art of dealing

with human nature. Human nature must be the basis of every leader's calculations. To maintain the moral of his own men; to break down the moral of his enemy—there are the great objects which, if he be ambitious of success, he must always keep in view."

"It is this aspect of war, then, that those who aspire to become great generals should study. This aspect remains unchanged, and nowhere can it be studied with more profit than in the campaigns of those great captains who owe their greatness to the one fact, that it was the mainspring of all their actions".

Or, as Bernhardt puts it,—“Tacticians with cut and dried methods are not much use under modern conditions. We want leaders equal to emergencies and to the unforeseen”.

(b.)—STAFF DUTIES.

It is sometimes not altogether realised what a great deal we can learn in regard to staff duties from the study of military history. We are a little inclined at times to consider that we can learn our staff duties from our Manuals, our Field Service Regulations, and so on. And so we can. We can learn them; but we want to more than just learn off actual data and actual principles. We want to get the matter properly focussed in our minds, and, therefore, we want examples of why such and such a regulation is framed, and why importance is laid on such and such a regulation. And, therefore, we turn to military history. Accordingly we will, this afternoon, take a battle and just consider it from this point of view. Let us take the battle of Telissu.

On what point in staff duties is almost more emphasis laid in our Field Service Regulations than on any other? Is it not the writing of Operation Orders? And are we not told, almost ad nauseam, of the importance of the writing of Operation Orders—the importance of clearness of expression, the importance of there being nothing ambiguous in the wording of our orders, the importance of the manner in which the commander's intention is expressed, the importance

of full consideration being given to the amount of information given or the amount of information withheld? And are we not sometimes disposed, in our own minds at any rate, to look upon Operation Orders as rather a bugbear? And I am sure some of us—are we not?—are a little inclined to look upon it as a rather theoretical matter?

Why then, is it so supremely important?—Because it affects everybody in the force, down to company commanders. That is really the long and short of it. Just let us consider for a minute this battle of Telissu and let us trace, from the Russian side, the importance of this great matter of staff duties, the Operation Order, on the course of the battle. Well there was no Operation Order. Perhaps you will say “Then how does your argument apply?” Well, it applies in this way—though there was no Operation Order, there were various orders. When I say there was no Operation Order, I mean it has never come to light; Stackelberg says there was one! but that it was lost. At any rate, all that subordinate commanders received were separate orders. One authority calls them notes relating to their individual tasks, nothing about what other commanders were to do, or what was the intention of the supreme command reached them.

“To suspend the erection of the Tower of Babel it was only necessary to produce a confusion of tongues, and to reduce an army to chaos it is quite enough to allow the operation orders to vanish. Ignorant of these orders, each leader worked in the dark, out of touch and out of harmony with his neighbours.”

“We must not therefore be astonished if the battle of Telissu on the Russian side is one long string of blunders.”

And so the first principle was violated, General Gerngroß was told to arrange with General Glasko—that is to say, Stakelberg shifted from himself the responsibility which rightly belonged to him and laid it on the shoulders of the subordinate. There is another germ of defeat planted and, as so often happens, when Gerngroß got this order to tell

him to make arrangements, he did make what he thought were suitable arrangements and then referred back again to Stackelberg and although he did not actually ask Stackelberg to let him know if he (Stackelberg) considered his arrangements were suitable, he waited to get this assurance from Stackelberg. Stackelberg, on the other hand, thought no answer was necessary and that the arrangement was made, and, therefore, took no further action. And the attack which was to have come off at about 2 a. m. did not start until about seven o'clock and then only in a half-hearted manner. Though I have no time to do it now and here, this afternoon, you can trace down, right through the battle, perfectly clearly, perfectly definitely, that the loss of this battle was largely due to this one mistake. Had an Operation Order been written by the responsible man, laying down the plan, giving the commander's intention, and the information, and the orders to the troops, even if the Operation Order itself was not very good, at any rate there would have been something offered for the subordinates to go on. As it was, there was nothing. Consequent on this, there was hesitation, there was irresolution, there was no determination to win, and therefore the battle was lost. War is not an improvisation. Only those who have learnt the science of war can hope to be able to practice the art of war.

"Orders can only be given, and can only be executed by those who in peace, have learnt to give them and learnt to execute them".

In this battle of Telissu there was no moral and material connexion between superior and subordinate, and a French writer of repute assures us that the moral, the best of all forms of connexion, is the product of orders and doctrine.

But I would go even further than this, and say that we can get a very good lesson in staff duties, in the work which began days before the battle commenced, and yet to which the events of the battle were directly attributable, that is to say, in the extraordinarily indefinite (I would almost say impossible and impracticable) instructions—a

French writer indeed labels those instructions as having "no parallel in history"—which Stackelberg and his Staff got from Kuropatkin in regard to the whole operation of which the battle of Telissu was one of the outcomes. These instructions ran as follows:—

"The mission of Your Excellency's troops is to draw upon itself, by an offensive movement towards Port Arthur, the greatest possible force of the enemy, and to weaken the enemy's forces operating on the Kuan-tung Peninsula."

"To obtain this result your movement against the enemy's northern screen should be carried out with rapidity and decision, so as to crush their advanced detachments at once if those prove to be weak. No decisive action is to be undertaken against superior forces, and you must be careful not to employ the whole of your reserves in an engagement so long as the situation is not cleared up."

"The final objective of your southern movement in the capture of Chin-Chou, and in the sequel an offensive in the direction of Port Arthur."

Here is an exercise in staff duties culled from military history. Placing oneself in Stackelberg's place let us ask ourselves if, after these instructions, we could, probably, have done better than did Stackelberg; and why? Is it not because in the instructions of Kuropatkin we can see, plainly, that he himself did not know what he wanted? For we must remember that, in reading military history, if we want to get the real lessons from that study, we invariably have to divest ourselves of after knowledge, and try to place ourselves, not only in the environment of the man into whose operations we are examining, but also into the atmosphere (that is, the "fog") of war. Then we may be able to get for ourselves some real value from the point of view of military history teaching us Staff Duties lessons.

And, before we leave this battle, I would ask you to turn to the victorious side and to consider for a moment Oku's orders. You will find there, too, ambiguity. But you will not find ambiguity about one thing, and that is the intention of the commander; and, therefore, although the

orders may not have been good, and were liable to a good deal of misconception, the subordinate commanders knew, at any rate, what was the intention of the supreme command and, therefore, (because the Japanese were, theoretically, soundly trained), they were able to redeem the faults in staff duties disclosed in the order, by their own initiative—that is to say, by their training in staff duties; and therefore, they were victorious. Here there was that moral connexion between commander and subordinate which, on the Russian side was so conspicuous by its absence.

Another point we could learn in staff duties from military history—and learn it very well from a study of the Manchurian campaign—is that first principle of staff duties is never to break up organisations. We find that the Russians were continually breaking up their organised units. We notice, on the other hand, that the Japanese, if they did break up a definite organised unit, invariably brought it together again as soon as possible. And you can find all the evil effects of the one violation of this principle, and all the good effects of striking to this principle on the other part, and nowhere will you see this more clearly shown than in a perusal of one of the latest books published at home—General Altham's "Principles of War" and, as it is so clearly set forth there, I do not propose to say anything more about it, except to give one illustration in a question of organisation, which we shall all remember. In South Africa we raised many irregular corps. Enlistment for these corps was for varying periods 3 months in some cases, 6 months in others, &c. &c. Not till quite towards the end of the campaign were these enlistments made "for the duration of the war."

The trouble and confusion caused by the different terms of enlistment can be imagined, and will certainly not be forgotten by anyone who had any work in connexion therewith.

If, however, we had remembered our military history we should have recalled to mind the difficulties—precisely similar—which beset both the Federal and Confederates in

the American Civil War in regard to this very question of varying terms of enlistment, and so should we have been able to avoid similar complications 40 years later in South Africa.

Broadly speaking, in regard to staff duties and military history, I would say that we can learn the best lessons from military history in regard to staff duties by reading not only about the mistakes that arise from faulty performance of staff duties and from the effect of good staff duties, but by studying the battles which have taken place and finding out the mistakes in staff duties there—by clearly understanding how Generals have prepared for the battle by good staff work in the days or weeks or months proceeding the battle. The methodical organization of the battle by the Japanese is a noteworthy feature of every action in Manchuria. And, indeed, in this connection, if we go back to the Napoleonic battles, we can see how Napoleon prepared for the Ulm campaign and the Jena campaign, and we can also get a most excellent example of it during the period before the battle of Austerlitz—that greatest of all the battles fought by, perhaps, the greatest of all captains. There we see very clearly laid down that one of the principal causes of his being able to fight a battle at Austerlitz in the way he did, hinged on Staff Duties—hinged, that is to say, on his having prepared an alternative line of communications (or, if you like it better, line of retreat). This we can see very clearly in any account of the battle. In fact, from this battle of Austerlitz, and from the events which preceded it, we can almost get lessons in every principle of Strategy, of Tactics, and of Staff Duties.

If however I have, in this lecture, alluded but little to Napoleon and to Wellington—those giants of war—it is because they were geniuses and I am inclined to think that we are apt too often to look for genius—which is hard to follow—instead of being content with what we can readily find—and which will be of more practical help to us—*viz.* ordinary talent developed by study and practice.

And may I remind you, before I close this very brief

view of staff duties and military history, that our own Field Service Regulations—which, as Field Service Regulations, are second to none in the armies of any nation—are practically based on military history. Here we have the book of staff duties par excellence, and the principles laid down therein are all based on definite examples from military history.

Only, as I have said before, in this lecture, military history—war—requires to be studied earnestly and with method, and not merely read; and if we want to find therein the useful lessons we must look below the surface, we must diligently seek for the causes of success and we must reject anything unsystematic. If we do this, we shall find much to learn and we shall not forget it. And, after all, that is the great fact—not merely to learn, but to store up the principles in our brain, to have them there always, so that when our time comes to use them, we shall instinctively do the right thing, because our brain has stored up the right principles.

And as I started this portion of my lecture by alluding to operation orders, I will conclude it by quoting Von Moltke on the subject of orders.—“Change in an order, after issue, is sometimes unavoidable but always an evil”.

And now I want to offer a few observations on the study of military history from the point of view of the regimental officer.

In this connexion I want, if I can, to interest, in the study of military history, the younger portion of my soldier audience. I feel that the study of military history needs no booming by me to the senior ranks of the army; but I am sure that most of my audience, whether senior or junior, will agree with me that the sooner after one joins the army one starts to read—or, rather, I should say, to study—military history the better for all of us, and, therefore, I would ask the younger members of my audience to put out of their heads, once and for all, the thought—if such a thought exists—that military history is a dry subject, and one that only needs, to be mastered at a time when one has to go up for examination, or at a time when certain

periods of that study are set as a subject of examination. That is an entirely erroneous idea to get hold of.

Military history is one of the most fascinating subjects one could possibly find. Where do we find such thrilling adventures, for instance—which have the merit of being true—as in the autobiographies of famous soldiers? Where can we find deeds that stir our blood more than in the records, regimental and personal, of bygone days? Where shall we find a more fascinating book than, say, the autobiography of Sir Harry Smith? I mention that particular book as I have always looked upon it as the book which first started me off on the track of military history. And I am quite sure that neither Conan Doyle nor Rudyard Kipling, nor any other writer of fiction, can equal the breathless adventures disclosed in the reminiscences of the valiant De Marbot—though, perhaps, I hardly ought to class that writer as a serious penman of military history. And I could multiply examples.

And where can we find a more delightfully written book than Colonel Henderson's "Stonewall Jackson"? I only mention these few to try and bring the point to notice that military history is not a dull subject, and once you have become fascinated by the subject, you will go on to the more serious, and more intricate reading which will give you equal pleasure as the books I have mentioned.

When I was thinking over the point of military history and the regimental officer, it struck me—I don't suppose for a moment that the idea is an original one, but it hadn't struck me before and, therefore, perhaps, it has not struck some of the regimental officers who may be in my audience—that there could hardly be a better start on military history for a young regimental officer than to take the battle honours borne on the colours of the regiment to which he has the honour to belong and, to determine that there shall be nothing in the history of the battles in which his regiment has taken part of which he will not make himself thoroughly cognisant.

By adopting such a procedure he will at one and the same time be studying the past history of that corps which, for him, stands for all that is glorious in the way of tradition and example, and he will also, I venture to think, be laying the foundation of what will be of incalculable benefit to him in his future career as a soldier, namely, the foundation of the study of the science of war, that is, of the profession to which he has the honour to belong.

A very natural question would be :—Where can I find a book that will give me an authentic history of my regiment's past history and deeds?

Some regiments, I know, have their own regimental records, some of which are full, and many of which are not complete. But there is appearing at the present moment, it has now reached its 7th volume a military work called "The History of the British Army" by Mr. John Fortescue, the King's Librarian. And I venture to say there is no book, that has appeared of recent years which is more worthy of study by the officers of the army, for whom it is written. And in the volumes of that book can be found the deeds of every regiment in the British Army, and in sufficient detail to give one a clear idea of the exploits of the various units, and all written in such a manner as to stimulate us to look further afield in case we want more detailed accounts of any particular action in which our interest may have been stimulated.

For instance, take a battle in which the leading of regimental officers has been especially conspicuous. You will, perhaps, say, "in what battle in our history, has not this been the case?" and I will agree with you. But, perhaps, in some cases it has been more conspicuous than in others. Take, for instance, Albuera. How can any officer of any regiment whose forefathers fought at Albuera, and who has the honour to see Albuera emblazoned on his regimental colours, read unmoved Napier's account of the final charge at Albuera? and, having read it, how can he fail to go further, and not only read, but study, how this astonishing victory was won?

In fact, to prove my point—if it needs proof—of the interest that, I feel sure, must be excited in any keen young soldier when reading of the exploits of his regiment, I venture to read to you the final sentences of Napier's immortal account of this battle. It will, I think you will agree, dispel any idea of dryness or want of interest.

"Such a gallant line, issuing from the midst of the smoke and rapidly separating itself from the confused and broken multitude, startled the enemy's masses, which were increasing and pressing onwards as to an assured victory; they wavered, hesitated, and then vomiting forth a storm of fire, hastily endeavoured to enlarge their front, while a fearful discharge of grape shot from all their artillery whistled through the British ranks. Myers was killed, Cole and the three Colonels, Ellis, Blakeney and Hawkshawe, fell wounded, and the fusilier battalions struck by the iron tempest, reeled and staggered like sinking ships; but suddenly and sternly recovering, they closed on their terrible enemies, and then was seen with what a strength and majesty the British soldier fights. In vain did Soult with voice and gesture animate his Frenchmen; in vain did the hardest veterans break from the crowded columns and sacrifice their lives to gain time for the mass to open out on such a fair field; in vain did the mass itself bear up, and fiercely striving, fire indiscriminatingly upon friends and foes, while the horsemen hovering on the flank threatened to charge the advancing line. Nothing could stop that astonishing infantry. No sudden burst of undisciplined valour, no nervous enthusiasm weakened the stability of their order; their flashing eyes were bent on the dark columns in front of them; their measured tread shook the ground; their dreadful volleys swept away the head of every formation; their deafening shouts overpowered the dissonant cries that broke from all parts of the tumultuous crowd as, slowly and with horrid carnage, it was pushed by the incessant vigour of the attack to the furthest edge of the hill; in vain did the French reserves mix with the struggling multitude to sustain the fight, and their efforts only increased the irremediable con-

fusion, and the mighty mass, breaking off like a loosened cliff, went headlong down the steep: the rain flowed after in streams discoloured with blood, and eighteen hundred unwounded men, the remnant of six thousand unconquerable British soldiers, stood triumphant on the fatal hill."

But you may say, reading military history may indeed stimulate my interest, it may make me a better soldier professionally, it may develop my interest in the study of military history: and do me good eventually. when I get to high command ; but how is it going to help me in my every-day regimental soldiering? or even in my career as a regimental officer in war?

I will answer that by a quotation from Hamley's "Operations of War" (new edition), which runs as follows:—

"It is not only for the study of grand tactics that a knowledge of fundamental principles is essential. Such knowledge also helps in the study, and application, of minor tactics. Considered apart from their surroundings, such questions as the best methods of defending woods and villages, or the relative advantages and disadvantages of the group and cordon systems of sentries, are perhaps somewhat dry. But when considered in their relation to a plan of battle—when in defending the village or wood we remember that a prolongation of its defence for an extra half-hour may be a determining cause in the success of a decisive movement elsewhere, or that a judicious system of outposts may save an army from surprise—then even these local questions become interesting. And the wider our understanding is of the relation of such local problems to the whole, the more successful may we expect to be in solving them.

"Modern war calls for an intelligent use of initiative by subordinates, and it is certain that the subordinate who grasps the broad situation most clearly will solve the local situation most intelligently".

These words were written by my brother commandant of the Home Staff College.

I think that seldom have truer words been written than that "it is certain that the subordinate who grasps the

broad situation most clearly will solve the local situation most intelligently”.

We hear over and over again, do we not?, that the regimental officer and the man in the ranks saved the situation in such and such a battle—by hard fighting it may be, by intelligent initiative it may be, or by various other qualities. If the words I have written are true—and I believe them to be fundamentally true—is it not worth our while to study, while we are regimental officers, in order to understand the principles broadly, so that we may apply them intelligently in the local circumstances?

And here I may remark—and I don't think I shall be misunderstood—that it always seems to me that this praise of the regimental officer at the expense of the commander—for this is how it is very often put, especially amongst the uninstructed of war correspondents—is, while doing an injustice to the commander also, to a certain extent, unduly belittling the regimental officer though certainly not intended in that light. After all, what are the units of our army—horse, foot, and dragoons—put in the forefront of the battle for but to fight hard, and to fight intelligently?

The commander makes his plans and he brings the units of his army into certain positions at the commencement of the battle. Once battle is joined, the issue lies, to the great extent, with the subordinate commanders in the fighting line. Once battle is joined, human nature has its full play and no commander, however eminent, can foresee how local incidents may influence the course of the battle. But these local incidents must be dealt with quickly, promptly, and on sound principles by those in the locality of the incident; and to say that the regimental officer won the battle, and thereby redeemed the stupidity (or whatever term may be used) of the commander, or of his Staff, is to show an utterly false conception of war, and of war's manifold incidents.

I don't suppose ever a battle yet—with but one exception that I can think of namely that of Austerlitz—has been fought exactly as the commander planned it. And even at

Austerlitz, I doubt whether Napoleon altogether foresaw the enormous strain that would be imposed on the regimental units on his right. But you don't hear French historians extol the regimental officer at the expense of Napoleon. The regimental historian in France realises that the regimental units are put in certain positions to fight, to fight, with intelligence, and in accordance with the principles in which they have been trained; and regimental gallantry and the upholding of regimental honour and esprit de corps he takes, as we do, for granted.

No commander that has ever been born, or that ever will be born can possibly control every sphere of activity in the fight, in its local incidents; and he can only influence such incidents, when they arise, by reason of the trust reposed in him by all ranks, which trust will only have been gained by the knowledge possessed of all ranks, and the trust reposed by all ranks in his character, his characteristics, and his personality. In short, in that mental sympathy between leader and led which has ever existed in the ranks of that living organism—a victorious army.

PART IV.

I have tried, in the short time available, to deal with three distinct subjects of study in which it seems to me that military history can help us. There are, of course, many other aspects in which this study is of use to soldiers. After all, military history is a means to an end, and it is a truism to say that all study should have a practical aim; therefore, perhaps, I may be allowed to conclude by drawing attention to some of the means of studying this important branch of our professional duties.

What we really want to study in our reading of military history is what lies underneath the written word; and especially do we want to realise what we want to store away in our brain for further and future use and what we can reject as unnecessary with which to tax our memory.

For instance, we want to remember rather why a general was in superior force on the battlefield and how he

managed to bring his army there in superior force to his opponent, than to remember in what number he was superior. The old way of teaching military history was by question and answer as to facts which had to be committed to memory. That has given place to a study of the why and the wherefore—that is to say, to reasoned reading. What does it matter to us how many fewer bayonets Napoleon had at Austerlitz than the Allies? What does matter to us is the means by which he brought those bayonets on to the field and how he used them so as to be in superior force at the decisive crisis of the battle. And what, again, does it matter to us in what exact numerical inferiority Oyama was to Kuropatkin at the battle of Liaoyang? What does benefit us is to realise that, at Liaoyang, the inferior force attacked a superior force in a chosen position, and beat it, and that, though inferior in numbers, the Japanese were really in superior strength—not superior in numerical strength, but superior in strength as strength counts in war.

“Neither does strength depend on extent of territory, any more than upon number of population. Take up your maps when you go home this evening put the cluster of British Isles beside the mass of South Africa; and then consider whether any race of men need care how much ground they stand upon. The strength is in the men, and in their unity and virtue, not in their standing room.”

And what, again, does benefit us in regard to this battle of Liaoyang is to remember how that superior strength which the Japanese developed was not only the strength in *moral* that they acquired during the war, but that it was the strength acquired in the many years of preparation that preceded the war, the strength of superior readiness, the strength of superior training, the strength of the better cause, the strength of the national understanding of the importance of the cause.

And, while we are considering 1904, and while we are finding out from military history and it is a lesson that all we Englishmen want to grasp, and learn, and remem-

ber what it was that gave the Japanese such a great initial advantage and how it was used, let us go back a hundred years, and compare how command of the sea was used in the Peninsula, and, again, how it was used to the best advantage. Let us then compare the two, and see if there was much difference, in lesson and in principle, between the use made by Wellington of the command of the sea, and the use made by Oyama. Then, I think, we shall begin to grasp the use of the reading of military history as a means of bettering ourselves in our profession. More, I would study how Sir John Moore trained the Light Division at Shroncliffe Camp, and see how much difference there is in principle between that evolved by him *then* and that practised by us *to this day*!

I think, perhaps, nowadays no lecture on any study relating to war can be considered complete without some reference to the latest developments brought about by science; and though military history does not give us much scope to find out much about the actual effect of aeroplanes in war, I think it can help us in guiding our ideas in the direction in which the use of aeroplanes *may* be important.

Naturally, when thinking of aeroplanes, we think of information. Hitherto we have been dependent on our cavalry, and our secret service agents, for information, but it only takes a very casual knowledge of military history to divine that the important services of information may be largely influenced by aircraft. What do we find throughout the pages of military history in regard to information by cavalry? Is it not the difficulty in getting that information back quickly to the commander who is waiting for it?

Is it not, therefore, manifest that, in this important particular, aircraft used in co-operation with cavalry may be of the most incalculable benefit?

May we not, therefore, deduce that, in the opening stages of the campaign, before the opposing forces come into contact, aircraft should be allotted to the Independent Cavalry—that is to say, allotted by the Commander-in-Chief to

that portion of his force—the Independent Cavalry—on which he relies for information regarding the enemy's main forces, and not detached to subordinate commands. Undoubtedly, it would seem that the strategical reconnaissance of armies will be considerably amplified by aircraft, for not only will information reach the Commander-in-Chief more quickly, but, on account of the great breadth in deployment of modern armies, aircraft will not only supplement the work with cavalry as carriers, of the information received, but will also be able to aid the cavalry by indicating to its commander the best line of advance.

There is another reason, too, for which it seems to me it would be preferable for the Commander-in-Chief at the outset to keep aircraft in his own hands, rather than detach it to subordinate commands, and that for the same reason as the Independent Cavalry is massed—that is, to break through the enemy's protective aircraft troops. In fact, concentration of superior force will be as necessary in the air as on the ground.

Later on in the battle, or when the opposing forces are in close contact, reconnaissances by aircraft become tactical rather than strategical, and then it would seem—though I admit we have very little to go on—that the wisest plan would be for the Commander-in-Chief to detach aircraft to the headquarters of armies and divisions, for in this case the value of these tactical air reconnaissances will be gaged by the celerity with which information reaches the troops who have to act upon that information. And, therefore, I think that, until we have reliable information as to the use of aircraft in actual war, we can from military history deduce some of the principles which should guide its conduct.

And, finally, never let us forget the influence of human nature and its influence on the course of a battle and all the events leading up to a battle. I agree that it takes a Napoleon to win an Austerlitz. But that should not stop us from studying the principles on which Napoleon acted in his gaining of this most brilliant of all victories.

And as study of human nature, or rather of the way to make use of human nature as an aid to the winning of battles, there is no more profound study.

And so, in conclusion, may I make a few remarks on one aspect of this human nature? In the first portion of my lecture I alluded to the necessity of getting the right principles so ingrained into our system, so stamped on our brains, that we instinctively do the right thing. My old teacher in the art and science of war—the late Colonel Henderson (and there never has been a better)—used to lay the greatest stress on the necessity for the development of instinct. And in the conference to which I have already alluded Field Marshal Sir John French says—"Instinct is really the one quality necessary in a commander. When we are surrounded by every worry, by all the disturbing influences which, as everybody knows, are always present when fighting is going on, this knowledge is absolutely useless to us unless it is instinctive and comes to us practically like writing the letters of our own names, which we do without stopping to think".

Certainly, then, we shall all be in agreement that this question of "instinctively doing the right" is most important; and a study of military history will show us that this quickness of brain, this—so to speak—instinctive knowledge, is always present in the lightning strokes of great commanders, such as the stroke by which Wellington at Salamanca defeated forty thousand Frenchmen in forty minutes. And Wellington, as we know, gave up some hours daily to the study of his profession and his brain was thoroughly well trained. In fact, he could rely on himself when his time came for great responsibilities to instinctively do the right thing. And so it was with Napoleon.

There is a great deal written on this question of instinct just at present and, to paraphrase Emerson in his remarks about intellect and character, I think we may fairly say that, between instinct and reason there has been a blood feud ever since the days of Adam (or should we say Eve, as we are talking of instinct?),

Nelson, according to recent French writers, was guided by instinct, not by reason; yet Nelson was a great student. And there are French authors who tell us that "all men are guided by instinct before they reach the age of reason." Perhaps it is true then, as I read somewhere, that the corollary of this is that, as reason is the less trustworthy guide of the two, few men ever reach the age of reason! Certainly pure reason is difficult to find and, when found, is not—as I suppose it ought to be—always convincing. And that instinct which has hitherto been "carelessly tossed to women and animals" and defined as "something sub-conscious," may be a juster and safer guide than reason in this workaday world, or at any rate that instinct comes first and reason follows after to justify instinct?

This is not the place, and there is not the time, to examine into what this instinct really is that is such a powerful factor in the actions of men—and of women. And it may be that, in saying that we want to train ourselves instinctively to do the right thing at the right time, we are to a certain extent, using the word "instinctively" in a different sense to what a dictionary would give us as the definition of instinct.

Let us leave it at that; but let us note the fact—the undoubted fact—that we want, aided by study, by practice, and by confidence in ourselves to be able so to store up our knowledge in our brains that, at the right time, with a quickness and a certainty that at any rate match instinct, we shall find ourselves able to produce, what we call instinctively, a manoeuvre appropriate for dealing with the situation as it is presented to us.

Whether instinct properly so-called can be trained, or improved, or developed by confidence is a point on which there are sure to be many diversities of opinion. But there can be no difference of opinion regarding the extreme importance of study as a means of enabling us instinctively to do the right thing, when faced with a situation which demands prompt action. And in the pages of military history we shall find countless examples of great commanders

other than Napoleon, Wellington and Nelson, who have been guided by this influence on the path to victory.

Remarks of the Chief of the General Staff at the Conclusion of General Braithwaite's Lecture.

Your Excellency, Ladies and Gentlemen:—

I feel that it is somewhat presumptuous for me to offer any remarks, after hearing a lecture of the calibre of that to which we have just listened, but I am tempted to give you a personal experience by way of furnishing a backing to one or two of the lecturer's points.

Some five years ago I was one of a party of three, deputed by the Canadian Government to visit Gettysburg, to enquire into the manner in which the U. S. Government were preserving that memorable battlefield, as a memorial of one of the greatest combats in the history of their country.

We were escorted to the field by three Commissioners for the battlefield appointed by the American Government. They took us first to the North-Western portion of the field where the first day's battle began. There we were invited to ascend an iron tower which had been erected in order to give a bird's-eye view of the ground. I somewhat demurred, saying that I should prefer first of all to go to a point not far off, where the road, by which the confederate forces approached the battlefield, first reached the high ground.

The senior commissioner asked why I wished to do this, as a magnificent view of the whole field was obtainable from the top of the tower.

I said that I wanted to see the ground as Generals Hill and Lee saw it on their arrival, and to picture, so far as I could, the scene in front of them when they there came into contact with the opposing forces.

One of the commissioners who had been with the confederate Army throughout the war, and had ended up as Brigadier General of Cavalry, at once said he would go with me. As we walked along together he said "I have been here several years, but you are the first man who has wanted to view the field first from this point". He added (and this

is the point I want to make to you). "It is really the only way in which you can understand General Lee's action". I mention this because it was a remark made by an officer who though not actually present at this battle had been with Lee's force before and after, and whose business it was to know all about the battle. This is an example of what General Braithwaite referred to when he spoke of the need for placing yourself in the environment of the commander in his atmosphere so to speak, if you wish to understand the reasons for his action.

I may mention another incident which occurred on the same occasion, which confirms another thing which the lecturer said this afternoon. In talking the battle over with my Confederate friend, I remarked that what struck me most about the battle was the disjointed way in which Lee's attacks were carried out. To such an extent was this the case on the second and third days that frequently Federal troops, who had just been successful in beating off one attack, were able to reinforce their comrades in another part of the field, who were engaged in meeting another attack, which should have been simultaneous with that which they, the reinforcing troops, had just succeeded in beating off. I asked the confederate general the reason for this. He replied "We had bad staff officers. The best had by that time all been killed off, and practically all of the staff at that time were untrained in their work. General Lee's arrangements were sound and he intended his attacks to be simultaneous, but our staff officers were incapable of seeing his plans carried out". This I think is another example from military history of the result of bad staff work. A further example may be given from the same battle, to illustrate the importance of operation orders shewing clearly the intention of the general. When Lee came up in the afternoon, General Ewell had just succeeded in driving part of the Union Army back on Gettysburg itself. Lee sent an order to follow up the attack and capture Cemetery Hill, *if possible*. General Ewell considered this order left him at liberty to use his discretion. He thought its capture not possible,

and did not attempt it. There is a considerable chance that had he done so Cemetery Hill would have been gained, and the whole result of the battle changed. Thus, if you look back, you will see how the whole issue of the battle possibly hung upon the misunderstanding of two small words.

General Braithwaite has quite rightly invited your attention to military history mainly as it concerns the great masters of war. These great masters were nearly all Europeans, waging European Wars. But I should like you to go further and give some attention to another war—the American Civil war—which offers many lessons. The study of it has one great advantage; it is written in our own language and you can readily obtain, what it is difficult to obtain about most battles, a full and connected account of what went on.

And here in India we should certainly be wrong if we neglected the history of our Indian campaigns. We can learn a great deal by studying the old campaigns through which Wellington served. The more recent campaigns on the frontier, too, should not be ignored. General Henderson has deliberately given it as his opinion that Wellington owed a great deal of his success in the Peninsular War to experience gained in India. He had had to organize staffs, arrange for transport, contend against innumerable difficulties of climate and food supply, and march great distances with very inferior transport. This experience stood him in good stead when he was faced with somewhat similar conditions, as regards transport and supply at any rate, in Spain and Portugal.

Here in India, you have also easily accessible histories of various campaigns on the frontier, and can ascertain how some commanders, like Lord Roberts, '*did it*' and, unfortunately, how some others '*did not do it*'.

If you want further confirmation from military history of the value of resolution in a commander, look at the history of the attack on the Peiwar Kotal and judge if Lord Roberts displayed determination or not.

In conclusion I would ask my comrades, staff and regimental, here in India to accept my statement that there is no study for us soldiers at once so interesting and so useful as that of military history.

His Excellency's concluding remarks.

I think we shall agree that General Braithwaite has given us a lecture which is not merely instructive, but which is much better than that; it is suggestive, and will give all of us soldiers something to think over when we leave this theatre.

"I am glad, too, that General Lake has supplemented it with certain remarks about Indian military history, for after all, in this country which pays for our services, our first duty is to be ready to deal with enemies which we meet here, to understand how the principles of war ought to be applied to those enemies and to the country in which we should have to meet them.

"But that, however, does not nearly go far enough. In the past, Indian trained troops, both British and Indian, have fought in many parts of the world. It is likely enough that history may repeat itself. We are no longer local, and we are liable, in the future, to be sent anywhere to fight any enemy and in any country. That requires a very wide and serious training. The best of all possible manuals that exist at the present moment, is our Field Service Regulations, Part I; but that book itself says that while the principles of war are neither numerous nor abstruse, their application is very difficult and cannot be made subject to rules. It then goes on to say that the application of these principles to the circumstances of the moment depends entirely on sound military education and that can only be built up by constant study and practice.

Now we run up against our difficulty. Study and practice: our difficulty is practice; we do not get enough of it and cannot. Therefore, we have to make up for it by the only alternative open to us, which is more study.

"Let me try and give you an example. Take, for instance a keen Bridge player who is transferred to some

jungle station where he cannot get a rubber. There is, however, the hope of returning to civilization some day and this causes a desire to maintain and increase his skill. Like us, he should know the principles of his game, just as we know the principles of war from Field Service Regulations. Like us, what he would want would be practice. That he could not get. Like us, he would be driven back on study. What would he do? I suppose he would probably begin in the first place by working out those problems which are so frequently published by the newspapers in these days; and that would be good training, up to a point. There is some assistance in having an imaginary and strategical scheme set for us to work out; but I think that after a time he would begin to find this solving somewhat tiresome. What would he do then? I think he would want a book to illustrate actual hands; hands actually played by different masters of the game, and that he would learn from them much more about the intricacies of the game—its principles. Later he would perhaps throw their principles to the wind and try to find some of his own.

Well, Gentlemen, I think our principle of education is somewhat like that. We have Field Service Regulations, which however, will take us so far and no further. They will teach us principles but will not teach us application. Then we come to problems and they carry us on a considerable distance; but then, as in the instance I have given, I think one finds a certain amount of unreality and one wants to turn to the great masters. But when we turn to them, if we are to get any real benefit from their study, we must appreciate how far the man we are attempting to criticize knew what cards his opponent had in his hand. That I think is the essence of the whole business; we can derive no proper lesson from study of this kind unless we put ourselves into the atmosphere of the event under investigation.

And now I beg with your permission to offer a very sincere vote of thanks to General Braithwaite for his most interesting lecture.

As Told to the Children—Continued.

BY PADDY BUTTON.

III

How Sir Front de Boeuf continued to grow up.

You are not to suppose that there were no more web footed giants left after Sir Kal Karunga began to shrink. There were several. There was, for instance, an olive complexioned giant. He had black hair like Sir Kal Karunga and lived quite near him and was, indeed, a near relation of his. He was particularly famous for the remarkably long swims that he used to take. In his travels he discovered all sorts of places where he could pick up currency notes, which were evidently the diet of all thriving web footed giants. He kept his secret to himself, however, and Sir Front de Boeuf did not hear of it for a long time. The consequence was that they did not happen to meet very much. Nevertheless, for some reason or other, although he was quite as big as Front at the time of Sir Kal Karunga's ducking, the olive complexioned giant never grew any bigger. In fact, like Peter Pan, he never grew up at all. I can't tell you the reason for this. It may have been that he was a very greedy giant and in devouring his currency notes he may possibly, on occasion, have bitten off a larger bit than he could chew and so spoilt his constitution.

Besides the olive complexioned giant who did not count for very much, there was another giant who counted for a very great deal indeed. This one was round and fat. He had a pink face and yellow hair and wore baggy trousers and wooden shoes with bits of straw sticking out at the heels and he had a bad habit of walking about with his hands in his pockets, just as if he was the laziest person in the world, which he wasn't. This fat, round giant was

related to Sir Front de Boeuf. Curiously enough, too, their estates resembled each other in being extremely wet. It is true that the round, fat giant's estate was not completely surrounded by water like Sir Front's, but, to make up for that there was much more water *on* it. At home Sir Front only got his feet wet when he walked about, but the round fat giant could hardly help getting wet up to the waist. And as, in addition, he was always paddling about in the mud making banks and ditches and sluices to keep the water out, he could hardly help having clammy, wrinkled, webbed feet. He need not necessarily swim, of course, when he left his estate—he could take the land route—but the country all round it was inhabited by a number of rather nasty, disreputable, little giants who were the poor relations of the green-eyed giant, and the round fat giant preferred not to have any dealings with them.

So he gradually acquired the habit of leaving his estate by water. "If I've got to be web footed," said he, "I may as well be web footed to some purpose." And you'll notice that both Sir Front and the round fat giant took to the water not because they liked it but by force of circumstances—not because they might, but because they must. This was only right and proper. A giant who presumed to take to the water when he need not do so, deserved to be ducked as severely as Sir Kal Karunga was.

Unfortunately for this round fat giant he could not conceal his movements from Sir Front de Boeuf as the olive complexioned giant had done. This was because his castle was quite close to Sir Front's, and whenever he went out or in he had to swim past Sir Front's door. So if Sir Front and his wife happened to be looking out of the window at the time, they could scarcely help seeing him.

"Look," Lady Have-at-'em would say, "there goes that odious, wheezing, pompous, self-satisfied giant again, loaded up as usual with all sorts of nice things for his horrid wife. I wonder, James, that you allow him to do it; under our very windows, too, and never so much as an 'excuse-me' or a 'by-your leave! It's very kind of us to let him

swim past here at all, and I think he might at least bow to me when he sees me at the window."

"*Really!* Harriet," Madame Laissez Faire would exclaim from her seat by the fire, "*really!* I *am* surprised at you. I can't see what harm he is doing, poor fellow! And if he *does* happen to be a good, kind, dutiful husband, at any rate I think *you* are the *last* person to complain of *that*. Besides, if this nice, fat giant *does* forget to nod to us when he passes, I'm sure he does not mean any harm by it. It's probably only his shyness."

But Sir Front knew very well that the round, fat giant was not a bit shy; indeed he had every reason to suppose that precisely the contrary was the case.

I must tell you that, as all prosperous web-footed giants are sure to do sooner or later, both Sir Front de Boeuf and the round fat giant had taken to swimming on errands for all the other giants, who gave them letters and parcels to carry to their friends. This does not sound a very pleasant or honourable occupation, but you must not suppose that they did it for nothing. The fact is that when a web-footed giant was given a parcel to carry, he was also always given a bill of lading as well for himself. Now bills of lading are very excellent to eat and, indeed, from a very necessary part of the diet of all really important web footed giants. They taste very like currency notes and are very much the same sort of thing.

Well, in this Carter Paterson business, Sir Front often met the round, fat giant as they had the same customers; and from what he saw of his manners he felt that he was more inclined to be rude and overbearing than shy. Sir Front, however, was very good-natured and did not take offence at this. What he did not like was that the round fat giant seemed to get more parcels to carry and consequently more bills of lading to eat, than he did; and he concluded, sensibly enough, that the more bills of lading the round fat giant got the fewer would be left for him. He was rather sensitive about such things and it worried him.

At last, one day, when he saw the round, fat giant swimming along close to his castle and felt that Lady Have-at-'em was on the point of introducing her well known remarks on the subject, he felt quite desperate and decided that the time had come for him to do something. So he slipped into the water and swam out to the round fat giant.

"Good morning," said Sir Front de Boeuf. The round fat giant took no notice, but just went on swimming with his load of parcels.

"Good morning," repeated Sir Front, "I".....

"What's the matter"? asked the round fat giant. "Come on, out with it. I'm in a hurry."

"Nothing," continued Sir Front, controlling his temper is further from my intentions than to provoke a quarrel; at the same time....."

"Of course," interrupted the round fat giant, "we all know that. You never quarrel, do you?.....expect when it suits you." "I don't want to be disagreeable," persisted Sir Front,

"but I do insist on telling you that I don't like your manners. In fact I detest them. They are those of a boor. I've always thought so, and now you have insulted my wife by your rudeness. In future I insist on your saluting properly when you pass my castle. Do you understand?"

"No," said the round fat giant, "why should I?"

"Because you are swimming in my waters."

"Your waters?" indeed," laughed the round fat giant, "waters are common property. Go and tell your granny that."

Sir Front was incensed perceptibly, as he always did at any allusion to his domestic affairs.

"I tell you, they are my waters," he roared, "and I'll prove to you, what's more that you only pass through them on sufferance."

And they settled down to a mutual ducking match. It was useless for Sir Front to start swimming in rings, because the round fat giant was just as good a swimmer as

he was. He was just as big too, and on account of his shape, was a good deal more buoyant. But the round fat giant was hampered by the parcels which he was carrying. It stands to reason, that when two giants fight in the water, the one which happens to have the most luggage at the time must be at a disadvantage. Naturally he does not want to lose any of his packages, so he has to guard them as well as defend himself. It is therefore recognized by most sensible people, that, if a big giant takes up the Carter Paterson line of business, as most of them do, he must be a very great deal bigger and stronger than his opponent, unless he is prepared to lose all his property and to be ducked into the bargain.

On this occasion the fat giant lost quite a number of his parcels which floated away and were eventually picked up by Sir Front. He was beginning to get very tired and did not at all like the prospect of losing all his baggage, so he told Sir Front, that he would always salute in future. As Sir Front was quite exhausted himself and protested that was all that he was fighting about (which wasn't quite true, you know) they agreed to stop.

Accordingly, for some time afterwards the round fat giant used to pull his fore-lock, when he passed Sir Front de Boeuf's castle, in the most approved nautical fashion. But he did it with a bad grace and gradually gave it up, till one day, instead of doing so, he actually stuck out his tongue at Sir Front and Lady de Boeuf, when he saw them standing at their front door.

Of course there was another terrific encounter. I suppose that Sir Front had grown a little since the last fight, because he had taken over some of the good will of the round fat giant's carrying business; but on this occasion the round fat giant had left all his luggage safely locked up at home, so as not to be handicapped as before. They were still therefore quite equally matched and the result was perhaps the greatest fight that there has ever been between web-footed giants. It lasted for hours and hours. Both giants

were again about equally exhausted, so it is difficult to say which won; I think it must have been Sir Front, because the round fat giant, once more, was the first to suggest that they should stop the fight.

These two giants would probably have gone on fighting again and again till one unmistakably ducked the other, had not a curious thing happened. Quite unexpectedly Sir Plein d'Esprit, who had a beautiful warm, dry, estate of his own to live in and had no call to take to the water and had not even really got webs between his toes, said, "Hullo! Why shouldn't I take to swimming too?" and came skipping and prancing down into the water. Tired as they were, this was too much for Sir Front and the round fat giant, and they promptly joined forces and set upon the unfortunate Sir Plein d'Esprit and ducked him to within an inch of his life. If he had not been so full of ginger, I am sure that Sir Plein d'Esprit would never have recovered; but he did, as you shall hear. In the meanwhile he concluded that, for some time to come at any rate, the water was no place for him.

Now, you will have observed that the round fat giant never really cried "*Capevi*" as Sir Kal Karunga had done. But it is nevertheless a fact that, after his last fight with Sir Front de Boeuf he never grew any more. On the contrary he began to shrink, till eventually one could only regard him as a poor little round fat giant. He continued to wear baggy trousers and wooden shoes, but he did not swim past Sir Front's door nearly as much as he used to do and, although he still had some nice warm islands to bask in, he soon became almost contented to lean up against a sunny wall at home, and took to growing hyacinths in glass houses. Perhaps the reason for his shrinkage was that his little disreputable neighbours prevented him from expanding, or perhaps his estate was too small, or perhaps there was so much water on it that he got cold feet. I say that perhaps it may have been any or all of these reasons.

Personally, however, I believe that the real reason was that, on the water, there is only room for one big web footed giant. There may be any number of small ones, you understand, but unless you happen to be the one and only big giant, you must inevitably be one of the small ones. Consequently, Sir Front de Boeuf and the round fat giant could not both be big together; and as Sir Front continued to grow, naturally the round fat giant had to shrink. I know perfectly well that there is far more water than land in the world and that there is plenty of room for lots of big land giants; that will not convince me, however that there is also plenty of room for a lot of big web-footed giants in the water.

I am only going by the opinion of all the giants. They consider it quite natural that Sir Front de Boeuf should be, as he soon became, the only big web-footed giant in the world; but if any land giant began to grow exceptionally large, they resented it at once and clubbed together to bring him down a peg or two, because they consider it quite wrong that any land giant should become head and shoulders taller than his neighbours. Sir Front de Boeuf quite saw the force of this argument and cordially concurred in the opinion of the other giants.

You can imagine, then, what happened when Sir Plein d'Esprit suddenly became discontented with his lot and began to bully all the other giants round him. He said that it was quite wrong for them to be contented when he was not, and that, if they had nothing else to worry about, he would present them with something which would answer the purpose, free of charge, gratis and for nothing. Sometimes he would take one of them by himself into a corner and beat him, and sometimes he would collect two or three of them and knock their heads together. The green-eyed giant (who was quite small then) and his poor relations, a certain unfortunate giant called Sir Nunquam Paratus, the white, pallid giant who lived to the northward, the olive complexioned giant who used to make such long journeys,

and even poor old Sir Kal Karunga.....all had their share of unpleasant experiences at Sir Plein d'Esprit's hands.

The only giant that Sir Plein d'Esprit's failed to bully was Sir Front de Boeuf. The difficulty was that he would have to swim across to Sir Front's castle before he could really make things unpleasant for him and Sir Front could generally duck him whenever he met him in the water. You must know that Sir Front and Sir Plein d'Esprit were old familiar enemies. Even at the time when they were both young and before Sir Front had become so exceptionally web footed, they used to fight together. They generally fought on Sir Plein d'Esprit's estate. Sometimes one would win and sometimes the other. Sir Front was, as a matter of fact, under the impression that *he* generally won, but Sir Plein d'Esprit was apt to dispute this. Anyhow, they never hurt each other very much and never lost their tempers and were always very good friends afterwards.

So, when he began to think that Sir Plein d'Esprit was getting a little too big for his boots and that it was high time to assist the other poor bullied giants, it was quite like old times to Sir Front. It was really rather amusing for him. He had not *got* to fight, you know, whether he liked it or not, as the other poor bullied giants had to do. He could choose his own time. It is true that Sir Plein d'Esprit preferred not to come out into the open water to fight Sir Front, but the latter could generally induce him to do so by sitting down on one of Sir Plein d'Esprit's islands where he was accustomed to sun himself. Sir Plein d'Esprit was always full of honour and glory and had a great deal of self-respect and, when he heard of it, was certain to come and try to drive Sir Front away.

Often Sir Front de Boeuf was content to wait for him on the island. In those days, although he was not very active or powerful on land when compared with the other giants, he was nevertheless not altogether to be despised; he *did* take a certain amount of regular walking exercise at that time, like troop horses on Sundays and Thursdays during the non-training season. Besides, he was always

careful to select some island as far away as possible from Sir Plein d'Esprit's ancestral estate, so that, by the time Sir Plein d'Esprit arrived, he was generally so blown and exhausted by his long swim, that Sir Front could dispose of him in comparative comfort.

Sir Front not only enjoyed the game thoroughly, but he found it extremely profitable as well. As all the other web footed giants were afraid to leave their castles in case Sir Plein de'Esprit should walk in, while they were absent, and steal all their things, they were compelled to shut themselves up at home and they ceased to take any interest in carrying letters and parcels for the land giants. These things had to be carried by somebody, and as Sir Front was the only giant left who had time and opportunity for doing so, he gradually acquired the whole monopoly of the Carter, Pateron business.

And then, as he soon found, the other giants were so busily engaged in quarrelling and fighting, that they had no time to make things for themselves. Their clothes and boots wore out, but they had not time to renew them themselves. So they asked Sir Front de Boeuf to renew them for them. This he was delighted to do—for a consideration. Even Sir Plein d'Esprit, actually in the middle of a fight, whispered to Sir Front that, strictly between themselves, he had worn out his coat and must have a new one and would Sir Front kindly oblige him with some blue serge? Sir Front said that he was always willing to oblige an old friend, and went off rubbing his hands as you will see Mr. Jones do behind the counter and day when you give him an order for a new suit. Sir Front told Madame Laissez Faire and Lady Have-at'-em to put the order in hand at once.

The result of all this was that Sir Front had so many currency notes and bills of lading to subsist on and got such a lot of practice in carrying parcels that he grew to an enormous size and soon became not only by far the biggest, but practically the only, web footed giant in the world.

And all the time he had the delightful feeling that he was very unselfish and that he was doing a real kindness to all those other poor giants, because whenever he attracted Sir Plein d'Esprit's attention from them they got a little respite from their troubles. It is true that Sir Plein d'Esprit was sometimes a little irritable after these encounters. On one occasion, when he had compelled poor Sir Kal Karunga to assist him, he was so savage at being unmercifully ducked by Sir Front that he came back and gave the unfortunate Sir Nunquam Paratus and the pallid giant who lived to the northward the very worst thrashing that they had ever had in their lives. It *did* strike the other giants that Sir Front's methods for rescuing them were perhaps a little tedious and barren of result, but they were, on the whole, grateful. They hoped that, if Sir Front continued to help them long enough, *something* might come of it some day.

Curiously enough Madame Laissez Faire and Lady Have-at-'em were both proud of Sir Front and approved of his conduct.

"You know, James," said Madame Laissez Faire, "as I have often told you before, I disapprove of all this quarrelling and fighting and think that you ought to live at peace with your neighbours. Still, Sir Plein d'Esprit is certainly a bully, and I really do not know what those poor giants would do without your help. I must say that I think it is nice of you to take the part of the weaker side."

"And so do I," said Lady Have-at-'em enthusiastically.

It really looked as if these two ladies had at last found a subject on which they could agree. I must tell you though, that, when she spoke, Lady Have-at-'em winked quite unmistakably. I do not quite understand what she meant by it, but I suppose that Sir Front did, because he looked rather sheepish and left the room hurriedly.

Well, Sir Front de Boeuf could not go on planting himself on Sir Plein d' Esprit's islands for ever, for the

simple reason that there were none left—at least Sir Front appropriated all that were really worth having for himself. Besides, Sir Plein d'Esprit has long e'er this refused to be drawn into the water on any account whatsoever.

Sir Front had, therefore to choose some other method for assisting the other giants. At first he thought it might be sufficient to land on the very edge of Sir Plein d'Esprit's estate and pretend that he was going to do a lot of damage all round. But Sir Plein d'Esprit was too busily engaged with the giants on the other side of the estate and did not pay much attention. Sir Front was a little disappointed at that; as a matter of fact, too, he had felt a little strange and uncomfortable at finding himself alone on Sir Plein d'Esprit's estate and kept one eye fixed on the water to make quite sure that he could always get away if he wanted to. This is one of the peculiarities of web footed giants, when they fight on land.

So, very reluctantly, he had come to the conclusion that the way to deal with a land giant like Sir Plein d'Esprit who refused to come out into the water to be ducked was to fight him on land, just as all the other giants were doing. Being web footed, he was able to choose which particular giants he would assist and in whose estate he would land. The green eyed giant (who was small at that time), the pallid giant who lived to the northward, Sir Nunqam Paratus were all doing something—though they were not doing it very much better than usual, so Sir Front de Boeuf decided to assist the olive complexioned giant and poor Sir Kal Karunga, who appeared to be quite helpless and were doing nothing at all. Madame Laissez Faire said that it was kind and considerate of him, but I am not sure that these two giants quite appreciated his attentions; at least they did not seem to do so.

All the other giants were so pleased to see Sir Front adopting methods that they could understand and that seemed sensible, at any rate, from their point of view, that they took heart and there was scarcely one of them, however

small, that did not join in attacking Sir Plein d'Esprit. It took a long time, but at last they all swarmed round him, with Sir Front de Boeuf, and pulled him down and dragged him in the dust and humbled him and made him cry "*Caperi*"

When it was all over, the giants began to pat each other on the back and congratulated each other and reviewed the situation and agreed that they were all very fine fellows. They noticed that Sir Plein d'Esprit had shrunk a little, but not very much on account of his great heart; the green eyed giant had laid the foundations of a very fine constitution; and some of the other giants who had been bullied had grown a little, although, to be sure, they had not done very much to be conceited about. But what surprised everyone, even Sir Front de Boeuf himself was the enormous bulk of Sir Front de Boeuf. He seemed to be the only giant who had profited by all this quarrelling. The other gaints could not make this out. I daresay that Lady Have-at-'em could have explained, but she would not say. Anyhow, that is how Sir Front de Boef continued to grow up.

IV.

THE GREEN EYED GIANT.

You will remember that I told you near the beginning of the last chapter, that the green eyed giant had a lot of poor relations who lived on the landward edge of the estate of the round fat giant who wore wooden shoes with the straw sticking out at the heels.

Well, the family name of this green eyed giant was Rufta. As that was also the name of the estate where he and his poor relations lived, his full name was Sir Rufta de Rufta. I suppose that, if he had been a Scotchman which, however, no one had ever accused him of being, he would have been known as Sir Rufta *of that ilk*, but, as a matter of fact, the other giants just called him Sir Rufta Rufta, for short.

In his young days Sir Rufta Rufta, with most of his poor relations, had often been soundly thrashed by Sir Plein d'Esprit. This, of course, for a long time prevented him from developing into a big giant as it stopped his growth. Sir Rufta, therefore, hated Sir Plein d'Esprit and was delighted to assist Sir Front de Boeuf and all those other giants in humbling him. He nevertheless hoped to take his revenge some day without anybody's assistance.

So he made his preparation accordingly. All day long he used to do muscle exercises and trained on steel shavings, mailed fists, fixed bayonets and all those other indigestible things that I told you about because he thought they would harden his constitution. And he gradually induced his poor relations to do the same, although they really did not relish this kind of diet a bit. It was even noticed that the more influence *he* gained over *them* the bigger *he* grew and the smaller *they* shrank, till they could hardly call their souls their own and he became almost big enough to fight Sir Plain d'Esprit himself.

However, he was a very methodical giant and preferred to do things systematically and hated taking chances, so before he made up his mind to fight Sir Plein d'Esprit, he thought it would be a good thing to try his hand first on somebody else, as an experiment.

Accordingly, one day, he walked into the estate of a poor little unoffending giant and thrashed him unmercifully and took away part of his estate. This naturally increased the size of Sir Rufta Rufta a little. The reason that it did not do so more was that the other giants did not quite approve of it. They thought that it was not quite fair and that any big giant could, of course, beat a poor little giant like that whenever he wanted to do so. It was certainly nothing to be conceited about, but, as it gave confidence to a giant who was trying to make his way in the world, there was something to be said for it after all.

Then Sir Rufta turned suddenly on Sir Nunquam Paratus, who was a much bigger giant, and thrashed him soundly too. Sir Rufta was awfully pleased and conceited about

this and swelled visibly. But all the other giants knew perfectly well that, for ages Sir Nunquam Paratus had always been worsted in every rough and tumble that he had with any other big giant and were not very much impressed. Anyhow Sir Plein d'Esprit thought nothing of it.

Then at last Sir Rufta believed that he was big enough and strong enough to fight Sir Plein d'Esprit himself.

Early one morning he walked over into Sir Plein d'Esprit's estate and went up to his castle and hammered on the door. Sir Plein d'Esprit had only just got up and was still half asleep; but he stuck his head out of the window wondering who it could be.

"Who's there?" asked Sir Plein d'Esprit.

"It's me.....Sir Rufta de Rufta," was the dignified reply.

"And what," asked Sir Plein d'Esprit, "can I do for you?"

"Come out and fight," Said Sir Rufta de Rufta.

"With much pleasure," said Sir Plein d'Esprit, who was only partially dressed and obliging; and although he was only partially dressed and not really a bit ready to fight, he drew in his head from the window and came running downstairs.

They fought close to Sir Plein d'Esprit's castle.

Sir Front de Boeuf happened to be swimming past at the time with some things that the Sky blue scarlet giant was sending to the little round giant with the straw sticking out of his shoes. As he had not seen a real fight among big giants for some time, he was much interested and stopped, with his head just out of the water, and waited to see what would happen.

To begin with, both giants lost their tempers immediately. This rather shocked the good natured Sir Front de Boeuf who never took anything very seriously (except the collection of currency notes) and rarely lost his temper even in a rough and tumble.

Then, they did not seem to be fighting according to any recognized rules. They just hit each other anyhow and

any where. Sir Front always prided himself on being a 'sportsman;' and when Sir Rufta intentionally hit Sir Plein d'Esprit below the belt, he was seriously scandalized. He was, in fact on the point of calling out, "Hi! that's not allowed; play the game!" but refrained when he saw Sir Plein d'Esprit, immediately after, kick Sir Rufta on the ankle. "What a disgraceful exhibition!" muttered Sir Front de Boeuf. "If that is the way that land giants are going to fight in future, I'm not for it; I'll not fight on land any more; I'll stick to the water." And he decided, on the spot, to give up the few land exercises that he did indulge in.

The fight between Sir Plein d'Esprit and Sir Rufta Rufta did not take very long, because Sir Rufta soon forced Sir Plein d'Esprit down to the ground where he choked him and pummelled him and never gave him a chance to get up again. Sir Plein d'Esprit struggled and gasped and kicked, but it was no good and he had to cry "*Capevi*" at last. Sir Rufta thereupon made him agree to hand over a part of his estate and would not go away till Sir Plein d'Esprit's wife brought him out a huge bag of currency notes from the house. "Well," said Sir Rufta Rufta to himself, as he walked away, "that's the end of Sir Plein d'Esprit anyhow. He'll become quite a small giant and he won't bully or even bother me any more." But he was wrong there. Sir Plein d'Esprit had too big a heart to shrink as much as that; besides he determined to do better next time and lived on that determination for a long time afterwards.

When Sir Rufta Rufta had gone, Lady Plein d'Esprit came out of the house with a sponge, some towels and a basin of water to tidy up her husband who was looking very bruised and dishevelled. Sir Front de Boeuf came out of the water too and sat down beside Sir Plein d'Esprit.

"That was a grand fight," said Sir Front.

"Grand fiddle-sticks!" exclaimed Sir Plein d'Esprit. One can perhaps excuse him for feeling irritable.

"I hoped all along that you would win," continued Sir Front.

"Well, you see that I didn't."

"I'm sorry for that," said Sir Front.

"If that's so," said Sir Plein d'Esprit, "then why didn't you help me?"

"Oh! well," answered said Sir Front apologetically, it was none of my business, you know. I wanted to see fair play and I couldn't interfere. Besides I've decided not to do any more fighting on land," said he.

"Oh! really," said Sir Plein d'Esprit, "if that's your intention, all I can say is that if you mean to sit out there up to your neck in water," he stopped to spit out a broken tooth, "it seems to me, Sir Front de Boeuf, that, to a friendly old enemy, you will be about as much good as a—a sick headache. Good morning".

It was quite clear that something had upset poor Sir Plein d'Esprit, so Sir Front de Boeuf took the hint and swam away with his bundles. Next morning Sir Front went round to see how Sir Rufta was getting on. To his surprise he found him paddling in the water close to the shore.

"Hullo! Sir Rufta," called out Sir Front genially, "what are you doing there?"

"Only looking for something I've dropped," answered he, climbing, nevertheless, rather hastily out and sitting down on the bank. Sir Front was amazed to see how much he had grown in the night.

"Why, how you *have* grown!" said Sir Front.

"The natural consequence of my fight with Sir Plein d'Esprit," said Sir Rufta.

"And what enormous teeth you 've got!" said Sir Front admiringly.

"Almost big enough to eat you with," said Sir Rufta, grinning, "But of course I should never dream of doing that, dear Sir Front."

"Of course not. Got any orders for me to-day?" asked Sir Front. Sir Rufta gave him some things to carry and some currency notes for his trouble.

Now Sir Rufta was getting tired of giving currency notes to Sir Front de Boeuf and would have much preferred to carry his own parcels to the other giants. Unfortunately he had not yet learned to swim properly. It was all the more unfortunate because he had learnt to make all sorts of things that the other giants wanted and he hated entrusting them to Sir Front. His large empty stomach, too, still required filling and he wanted something more buky and satisfying to fill it with than those iron filings and other indigestible things that I told you he fed on at that time. Currency notes and bills of lading, on which Sir Front de Bouf seemed to thrive, would, he thought, meet his case very well. As far as he could see, however, they could only be collected by swimming to distant islands and by carrying on the Carter Paterson business, of which Sir Front de Boeuf seemed to have the monopoly. Above all he wanted some place in the sun like the one that Sir Front had acquired. In short, Sir Rufta Rufta was jealous of Sir Front de Boeuf, and the more Sir Front came swimming round for orders, the more jealous Sir Rufta Rufta became. In the end he decided that he must learn to swim too.

In the meanwhile Sir Front grew more and more prosperous. As he had given up mixing himself any more in the quarrels and vulgar brawls of land giants and never took any more land exercise, he spent the whole of his time on the water. As a result his feet become softer and softer, flabbier and flabbier till they reminded you of the flippers of a seal than the webbed feet of a duck. This was splendid for swimming, but it was a pitiful sight to see him come limping along the shore when he walked. He looked like a young man who wore ridiculously tight shoes or an old one of seventy who must be suffering from bunions.

One day when he called on Sir Rufta, as usual, for orders, he actually found him having a swimming lesson and did not approve of it at all.

"Look here!" said he, "you mustn't do that, Sir Rufta; it's not fair."

"You swim," said Sir Rufta, "why shouldn't I?"

"It's different for me," said Sir Front, "I've got to; you haven't. Besides you haven't even got webbed like me, so there's no excuse."

"Perhaps I may get them some day, if I practice long enough," said Sir Rufta. "But I'm only doing it for my own amusement, you understand. Of course I could never expect to swim as well as you, Sir Front....."

"Of course not," said Sir Front.

".....and I should *never dream* of interfering with you or your business."

"I should just hope not," said Sir Front; but he was a little anxious in his own mind, all the same.

When he get home, Sir Front de Boeuf consulted his wife and granny about it. As usual they had exactly opposite opinions.

"I don't see that there is anything to worry about," said Madame Laissez Faire. "Sir Rufta says that he won't interfere with you. Besides, even if he does, I don't see that there is any reason why he shouldn't. He has as much right to swim as you have, and as for his wanting a place in the sun, that is exactly what you wanted when you were young."

"But," said Lady Have-at-'em, "the point is that he is neither young nor small. In fact he has grown up, and if you allow him to become a good swimmer I'm sure that something dreadful will happen some day. If I were you I'd drown him at once."

But Sir Front de Boeuf could not make up his mind.

As an experiment he learned some wonderful, new swiming strokes with a great deal of trouble and went and showed them off to Sir Rufta; he hoped that when he saw how difficult they were and what a fine swimmer he, Sir Front was, he would despair of ever being able to do them himself and would give up trying to learn to swim. But when Sir Front de Boeuf went round to Sir Rufta's estate a few days later, he found him practising these very strokes and doing them quite well, too.

A short time after that, as he was swimming along with almost all the parcels of almost all the giants, Sir Front met Sir Rufta. He was swimming too, and was also carrying parcels. Although the parcels that Sir Rufta was carrying nearly all belonged to Sir Rufta himself, Sir Front was very much annoyed, in fact, that he was just going to give Sir Rufta a good sound ducking, when he remembered the load on his own back. So he glared at Sir Rufta and passed on.

When Lady Have-at-'em heard of this she was very angry.

"What a chance to miss!" said she.

"But, my dear," protested Sir Front, "don't you see? If I had fought Sir Rufta, I should have been sure to drop some of my parcels and then what would all the other giants have thought? They would never have given me any more parcels to carry for them and then we should have nothing to live on."

"Well, I suppose," said Lady Have-at-'em, "Sir Rufta would have lost all his parcels, too."

"Quite so, my dear," said Sir Front, "but then he does not depend on the Carter Paterson business for his living as I do; he could always go back to these indigestible things as before."

Two days after that a dreadful thing happened. Sir Front went down to the shore to start on his daily round, when he saw a strange package lying on the beach. When he examined it he found these words written across it in big black letters—

WITH THE COMPLIMENTS OF SIR RUFTA DE RUFTA !!!

He had evidently brought them over himself!

This was too much for Sir Front de Boeuf. He dived straight into the water and swam off to Sir Rufta's estate. He found him as usual practising the very latest strokes close to the shore. Sir Front just swam on, got quite close to Sir Rufta, who did not appear to have seen him, and—scraped his chest on something sharp.

"Ow—ow—ow!" exclaimed Sir Front, "barbed "wire!" and when he let down his feet to stand on the bottom, "Oo—oo—oo!" cried Sir Front again, "broken bottles!."

"Hullo!", said Sir Rufta, just apparently noticing him, "is that you, Sir Front? Anything I can do for you?"

"Come out and fight," said Sir Front savagely, in Sir Rufta's own words.

"I won't," said Sir Rufta.

"Come on," said Sir Front, "be a sportsman."

Sir Rufta came close up to the other side of the barbed wire fence and, with the fingers of his left hand, opened his left eye to its full extent.

"Sir Front de Boeuf," said he, "do you see any green in my eye?"

Sir Front thought that he saw quite a lot and said so.

"No, no," said Sir Rufta Rufta, "I don't mean that sort of green. What I mean is—do you think that I am such a fool as to come and fight before I am ready?"

"Lots of other giants do it," said Sir Front.

"Well, I'm not one of them," said Sir Rufta. "Good morning."

Sir Front swam home without answering.

Then he thought that he would consult his friendly old enemy, Sir Plein d'Esprit, and ask him for his advice and assistance. So, as he was passing one day, he limped painfully up on to the beach and called on the castle.

"I gather," said Sir Front to him, "that you are not particularly fond of Sir Rufta Rufta."

"Not particularly", said Sir Plain d'Esprit.

"I don't care for him very much myself", said Sir Front. "Have you noticed how enormous he has become lately and what airs he has been giving himself?"

"Yes, now you mention it, I have noticed something of the sort".

"Well, don't you think it's about time that he was taken down a peg or two?"

"Perhaps it would be a good thing," said Sir Plein d'Esprit, cautiously.

"Then why don't you do it?" suggested Sir Front de Boeuf. Sir Plein d'Esprit looked at him suspiciously.

"Now then," said he, "I wonder what you are driving at. None of your tricks, Sir Front. I'll do it—but with your help, your real help, mind!"

"I'm always ready to assist, of course," said Sir Front.

"But it must be real assistance. None of your seeing fair play, umpiring game *this* time, you know, Sir Front", said Sir Plein d'Esprit with some emphasis.

"Of course not, said Sir Front.

"Honest Injun?" asked Sir Plein d'Esprit.

"Yes, honest Injun," said Sir Front.

"Very good," said Sir Plein d'Esprit with decision, "I'll beat Sir Rufta on land if you'll duck him first in the water."

"But—but," said Sir Front, "I wanted to do that the other day and he refused to come out and be ducked; said he wouldn't come and fight till he was ready. Faugh!"

"Well, but surely you can make him come out, can't you? Go and sit on one of his islands; he'll come out fast enough then."

"Unfortunately," said Sir Front, "he hain't got any island worth sitting on."

"Then you'd better go and singe his beard, as you did once to our mutual and shrunken friend Sir Kal Karunga."

"There are three reasons against my doing that," said Sir Front, counting them off on his fingers; first, he hasn't got a beard; second, he's put barbed wire and broken bottles all round his estate; and, third, he never sleeps, or, at any rate, never seems to."

"It's an awkward problem," said Sir Plein d'Esprit.

"Devilish awkward," assented Sir Front de Boeuf, and they both relapsed, into thought.

"I've got it," cried Sir Plein d'Esprit, suddenly, slapping his thigh.

"What?" eagerly demanded Sir Front.

"Come and assist me to fight him on land."

"But," said Sir Front, aghast, "how about my feet"?

"I can't help them," said Sir Plein d'Esprit derisively, "It's one of two things. Either you wait and fight Sir Rufta in the water when he is ready, or you assist me now to fight him on land, Sir *Sir Pied de Poid!*"

Sir Front de Boeuf went away sorrowful, for he had webbed feet like a duck and they were very tender.

Yes, that's all; at least I don't know any more. And there isn't even a moral to the story; only fairy tales have morals, and what I have been telling you is true.

Eh? No, I don't even know whether Sir Front de Boeuf ever managed to harden his feet. All I do know is that Sir Plein d'Esprit once suggested that he should rub alum on the soles, but Sir Front said that that would probably make them smart, and if there was one thing that he loathed, it was to put himself out or make himself uncomfortable.

Notes on Aircraft.

BY CAPTAIN J. A. G. CHAMIER, 33rd Punjabis.

Field Service Regulations now contain certain paras, on aerial reconnaissance but, in contradistinction to the notes for the guidance of Cavalry, it does not seem to be anticipated that aircraft will have to fight. And yet this is a question that must be considered: strategical scouting aeroplanes and other aircraft will run against each other in the early stages of the war and must have a preconceived idea as to their course of action. It is hardly possible that they will ignore each other: such a course of action must be entirely foreign to the nature of a soldier. In connection it must be noted that in the Army Exercise at Home in 1913 two aeroplanes attacked an airship.

Granting then that it is likely that aircraft will make an effort to prevent the enemy's aerial service from obtaining information, or getting away with it if obtained, an examination of the action likely to be employed should be of interest.

A. In the first place consideration will be given to the case of aeroplane *versus* aeroplane only.

Aeroplanes may be divided into two main classes—fast single-seaters and necessary slower two-seaters, for it will be admitted that in the highest development of each type the single-seater must have an advantage in respect of pace: the difference may be put down as a maximum of 20 miles per hour. Now for fighting purposes aeroplanes can adopt any of the following courses:—

- (a) use machine-gun, rifle, or pistol fire.
- (b) attempt to drop bombs on the opponent.
- (c) try to ram the enemy.

Of the above the first method is practically the prerogative of the two-seater as the pilot of an ultra-fast single-seater can only use a pistol and that is useless except at

extremely close range. The other two methods obviously require superiority of pace and thus appertain to the single-seater.

1. Now suppose the pilot of a single-seater finds himself opposed by one or more two-seaters' his superiority of pace should enable him to obtain and get away with such information as he is capable of acquiring. The only way the two-seaters can stop him is by moving on interior lines to intercept him and then to trust to hitting him with fire, as in course (a) above. The single-seater then has a reasonable chance of getting through but his information will not be very full.

Imagine that the positions are reversed and that a two-seater is opposed by one or more of the faster machines. How are they going to stop it? Courses (b) and (c) are open to the pilots of the single-seaters but both present extraordinary difficulties: an ultrafast machine is probably not so good a climber as the slower plane and even if it were to maintain one's position above, or to ram, a dodging enemy will be almost impossible. It must be remembered too that in this case the enemy is carrying a passenger who can make some sort of practice with a long range weapon and it will be seen that the plan rapidly approaches the impossible. As regards ramming—judging from torpedo boat and destroyer tactics in the Navy men will be found no doubt to attempt it, but there is the expediency of this course, which entails the loss of one's own machine, to consider, as well as the difficulty in carrying it out against a dodging machine and under close range fire.

It appears then extremely doubtful whether the fast machines can stop the slower two-seaters, whether indeed the latter with their fire tactics have not the better chance of the two. If you add to this the fact that the two-seater will bring back far better information which the observer can devote his energies to obtaining and marking on the map, the facts seem to point to the conclusion that the multi-seated machine will largely supplant the single seated scout.

2. If a fast single-seated machine is opposed by a similar machine or machines, success or failure will largely depend on the pilot's skill in manœuvre: as pistols only can be employed he will care little about going close to his opponent and he will try by superior skill in dodging, etc., to penetrate the enemy's screen. No doubt pistol shots will be exchanged but it appears likely that the initiative here will be the factor that will count most and the solitary scout will prove successful.

3. When armed two-seaters meet similar opponents we may expect a real fire fight; false attacks may draw off the enemy's aeroplanes to one flank while other attempts to penetrate the screen or turn the other flank. It is true that, as Field Service Regulations state, fighting is only a means to an end in reconnaissance, but information must be obtained and will have to be fought for if necessary. In this case as in the cases 1 and 2 above the aeroplanes seeking information will first try to beat their opponents by skill or trial of pace; if this cannot be done then they must fight.

The above cases have been taken as if one side were passive and the other active but in the employment of aeroplanes this is unlikely; it is more probable that when aeroplanes come in contact both sides will be on the search for information; concealment, except in thick weather, is impossible, and, as stated above, it is hard to believe that enemies will calmly pass one another in the air without attempting to frustrate the plans of their opponents. We may expect then fire fighting in the air between aeroplanes.

B. 1. In the case of dirigible *versus* dirigible it is clear that the favourable mark and steady firing platform are direct inducements to the use of fire; light maxims and pompoms will certainly be used by both sides and success will be dependent on fire effect and comparative vulnerability. Tactics will approach those employed in naval warfare and superiority of speed will be valuable both for avoiding a fight and for manœuvring.

2. It does not seem probable that a dirigible, on account of its lack of speed in manœuvre, will be able to stop

aëroplanes from getting information; the latter may however be the aggressors and attack a dirigible: in this case all three courses (a), (b) and (c) mentioned above are open to the pilots of the aëroplanes. Course (a) firefighting appears to offer a good chance of success as an aëroplane in flight in a small mark compared with the dirigible; this discrepancy in size possibly more than counterbalances the assumed longer range weapon and certainly steadier firing platform of the larger machine. Course (b) is open to the objection that, at present, the aëroplane would have to approach rather close to the dirigible and thus expose itself to fire from a gun mounted on the top of the envelope but with improved bomb-directing instruments this trouble will disappear as a dirigible is a large mark and cannot dodge and twist like an aëroplane. Course (c) involving self-destruction will naturally be avoided if possible.

If then the thesis be granted that fighting in the air is likely to be a feature of future campaigns it follows that most Army aircraft will be multi-seaters with a proportion of fast single seated scouts. It may be of interest to examine the class and armament proposed. At the outset this theory favouring multi-seaters may be combated by those who hold that, as one of the most reliable features of an aëroplane is its speed, any tendency to adopt a slower machine is retrograde. But if the question is further examined it will seem that sheer pace per se is not everything. It must be admitted that pace gives the advantage in manœuvring but as has been shown above a speed machine cannot by its pace alone overcome or stop a slower multi-seater. The rapid conveyance of information is certainly of great value but if the opposing forces are for example 100 miles apart the difference in time taken by the two types of machines for the out and home journey will be about 45 minutes—a delay of this amount will hardly adversely affect the course of movements which will last at least two days. Again if the forces are in actual contact the difference in time will hardly amount to more than five minutes. Thus speed per se is not of very great moment. On the other hand the

multi-seater has advantages which are all its own: the observer can devote all his time to his work, can possibly use field-glasses, and can mark off on the map the dispositions of the enemy's forces, etc., and a machine which has not been designed for speed alone can afford to have a more efficient chassis, will be easier to land, and will be less likely to suffer damage in doing so.

The patterns then which will be in immediate use will be the fast single seater and the slower multi-seater. The first will be an ordinary tractor monoplane (or biplane) with all resistance cut down to a minimum but the latter requires a little more consideration. The "pusher" type of bi-plane appears to be the best type at present available fire in front can extend over an area of 180 degrees and there is a certain limited area of fire behind. A tailless aeroplane like the Dunne shows to advantage here. A small amount of thin steel armour plating for the protection of the engine and personnel will certainly be employed. For purposes of offence there appears to be a real need for a new weapon: it will be realised that with present arms the great difficulty is in the observation of fire, as there is no possibility of seeing the strike of bullets; hence we must either devote our energies to trying to obtain a real point-blank trajectory up to the longest possible range, or we must find some method of making the path of the bullet visible. Progress in the first method is more or less limited by the science of ballistics and there does not seem much hope of improvement in this direction in the near future. The second plan appears more promising; if vaseline is applied to a rifle bullet the path of flight becomes to a certain extent visible owing to the smoke developed by friction and if this idea can be developed and the smoke trail be made so dense as to be readily seen I would suggest that a light automatic gun on the lines of the pom-pom be employed. There would be no need to look along the sights as the gun would be used as a hose and a stream of projectile poured on the enemy. It would appear that this would be a very deadly weapon and equally applicable to use

on land as an anti-aircraft gun. 5000 feet appears to be looked upon by our regulations as a reasonable height at which a compromise is arrived at between personal danger and facility of observation and this should be easily within the range of the gun described; the shell should have a contact fuse and simple time fuse for a bursting charge set for the extreme range of the shell, this charge to be sufficiently strong to disintegrate the shell to avoid danger to ones own troops from falling pieces. The gun would be provided with a shoulder piece like the Naval Hotchkis Q. F. gun.

An automatic gun of this kind with a visible path of flight of the projectile enables aim to be rapidly corrected and thus the chances of bringing off a hit are greatly increased. We may expect to see friendly aeroplanes endeavouring to drive the enemy's aircraft over batteries of such guns concealed on the flanks of a position: it appears at any rate that we are on the verge of important developments in aerial warfare and it is necessary to give the matter serious thought.

J. A. CHAMIER, CAPT.,

33rd Punjabis.

Strategical Studies, "1805."—(Continued).

BY LIEUT.-COLONEL A. W. ANDREW, 114th *Mahrattas*.

- | | | |
|-------------------------------------|---|--|
| I. Study of War. | } | Published in the Journal
for July 1914. |
| II. Peace Strategy. | | |
| III. Policy and Strategy. | | |
| IV. Theatre of Operations. | | |
| V. Time and Place. | | |
| VI. Single Line of Operations. | | |
| VII. Stratagem. | | |
| VIII. Battle. | | |
| IX. Relative Importance of Factors. | | |
| X. Detachment of Mind. | | |
| XI. Pliability in Choice of Means. | | |
| XII. Ability to Manoeuvre. | | |

VI.

SINGLE LINE OF OPERATIONS.

Napoleon's final dispositions for the march of the different corps of the Army of the Ocean had for their object their assembly covered by the Rhine. To prevent his opponents gaining any inkling of his intention, he usually postponed this assembly until the last moment compatible with safety. When that moment arrived, he moved his corps by the most direct routes, and with the utmost rapidity, to the Zone of Assembly, which he always took precaution to reconnoitre and provision beforehand. By these simple and common-sense methods he was able, both in 1805 and in 1806, to make up for any gain in time his enemies had obtained politically. In the present case his orders aimed at assembling his forces behind the Rhine, on the line Mannheim-Landau-Hagenau. Here, covered by that great natural obstacle and the fortresses along it, they

were to assemble in security and without fear or interruption from the enemy. He then projected them forward on a single line of operation. Some years ago a well-known writer on strategy said: "We can no longer march an army of 600,000 men on a single road." I am not sure, but I cannot help thinking that he had in his mind the invasion of Russia in 1812. Napoleon never marched his armies along a single road, but he always formed mass first and then advanced on single line of operations.

It scarcely comes within the province of this article to make such a digression as would be necessary were I to enter into a lengthy discussion as to the merits and demerits of a single as compared with double, treble or concentric lines of operation. When I suggest, however, that the Napoleonic method of advancing on a single line is probably the best suited for our army of to-day, then some remarks in support of that suggestion appear to be necessary. We must not allow ourselves to be unduly influenced by those German authors who, during the past thirty years have endeavoured to convince all and sundry that the method of 1866 was the last word on this much disputed subject. Moreover official opinion does not support their contention. In the German official account of the war we read, "Nothing would have been more desirable than for the whole combined forces to advance in one body. The difficulties as to supplies, which arise in the massing of a quarter of a million of men, could have been overcome if an immediate advance had been contemplated." This is confirmed by Moltke himself in an article in the *Militar Wochenblatt* of April, 1867, where he says, "The timely junction of the Prussian armies in the war of 1866 has never been represented—at least by our General Staff—as a stroke of genius or a brilliant idea. It was only an expedient, a remedy, chosen skilfully and applied with vigour for a situation inherently defective but unavoidable."

Even with the example of 1904 before us, we are led to say that the simpler the operation the more likelihood of its being pushed to a successful issue. In his capacity

for manœuvring large forces with the limited scientific means at his disposal Napoleon stands isolated and supreme like a Himalayan peak. No one approaches him in this particular domain of the art of war. "Simplicity in the general design," says Rose, "a skillful persistence in dovetailing subordinate movements into that design, and a prudent pliability in the choice of means, such were the characteristics of Napoleon's warfare, as they have been of all great leaders."

Inspired, therefore, by the idea of reducing his operation to the utmost simplicity, Napoleon, in his orders of September 17, 1805, aims at projecting his forces forward on a single line of operations. He does not aim at turning the enemy because he does not know where he is. He may be halted on the Inn or the Traun awaiting the arrival of the Russians; he may have joined forces with the Russians and be pushing forward to the Iller; or the Russians may be advancing along a separate line of operations from Bohemia, like the two Austrian Army Corps in 1809. Napoleon's advance in one body assures to him the means of contending, with all his forces, with the changing fortunes of the game.

We see this clearly in this campaign. First a direct advance in mass, then, on the 20th September, when he received news from Murat that the enemy was approaching Ulm, the corps were brought closer together, and a general direction more to the left was given to the whole army. Then, thinking that the Austrians would fall back on his approach, he drew up a memorandum embodying his idea for a further and more extensive sweep to the left. This memorandum was not issued; but, on September 28th, when certain that the Austrians were standing fast at Ulm, he changed the direction of his army slightly to the right to turn them by a more direct and shorter line. Thus the principle of using a single line of operations permits, if the general has been deceived, as often happens, with respect to the enemy's position or movements, of his being able to bring his whole forces to bear in accordance with the

changed conditions. This elasticity of movement; this adaptability to changing conditions; and this capacity for manoeuvre which, whilst keeping his gaze firmly fixed upon the single object in view, permits of his bringing his whole strength to bear at the right time and place, is exclusively the prerogative of him who keeps his army massed on a single line of operations.

Secondly, this method ensures the army being well in hand and under the direct control of the commander-in-chief. This obviates any possibility of danger arising from such independent action as occurred on July 3rd 1866, when the commander of the II. German Army refused to acquiesce in the plan of the commander of the I Army, whose ideas had already been communicated to the troops. We hear a good deal about initiative; but initiative must be controlled and directed, as Napoleon directed it; otherwise it degenerates into chaos and even into insubordination. In our judgment the reckless initiative of Moltke's subordinate in 1870, if repeated, will react upon themselves in a manner they least expect. They can no longer count on being opposed by MacMahons, de Faillys, Frossards and Fortons.

Initiative presumes qualities of the highest order in the superior leading, a sound strategical education based upon the campaigns of the great masters and permeating all the higher ranks of the military hierarchy; ability to adapt this education to the characteristics, circumstances and organisation of an army; and finally constant practice with troops which alone compels that interchange of ideas between brigadiers, generals of divisions and the commander-in-chief which eventually resolves itself into a sound, workable, and victory compelling doctrine of war. Hill was Wellington's right arm, and Hill's supreme merit lay in the fact that he alone exactly understood his commander-in-chief's mind.

Napoleon solved this dangerous precept of initiative by keeping a tight rein on his team and by continually lashing its unruly members into their places. Moltke tamely acquiesced in the wild plunging forward and the repeated "out of unison" acts of over confident members of his

team, which experience soon showed produced no ill effects when opposed by badly commanded opponents. Kuropatkin, soon realising that his corps commanders were adopting lines of action which stultified rather than promoted the general plan, tried to do as Napoleon had done; but he had neither the despotic authority nor the character to control and prevent from the beginning such divergent efforts. Nelson solved it in a much more practical way, a way we would do well to note. "It was his practice," wrote Berry, his flag captain," whenever the weather and the circumstances would permit, to have his captains on board the Vanguard, where he would fully develop to them his own ideas of the different and best modes of attack, in all probable positions." "That such conversations were not confined to tactical questions," says Mahan, "but extended to what would now be called the strategy of the situation, is evident from allusions by Saumarez to the various surmises concerning the various movements of the enemy." It is little to be wondered at that Nelson soon evolved that "band of brothers" whose acts in every fight reflected the views and sentiments of their beloved chief. At Copenhagen, at the Nile, and at Trafalgar Nelson's immortal successes were the result of joint efforts in a common cause.

Thirdly this method afforded Napoleon the opportunity of which he so often availed himself to the astonishment of his enemies, of changing his line of operations and so carrying out those grand strategical turning movements with which we associate his finest efforts. But the change of one's lines of communication, and the judicious selection, strengthening, and provisioning of strategic points on the theatre of war. We must be able to recognise these as Napoleon could recognise them.

Thus in this campaign we see him first fortifying and provisioning different points along the frontier from Mannheim to and including Huningen. Then, as he advances, Augsburg, Brunnau, and Passau in succession, are selected as magazines and depots, while Wurzburg, Bamberg and

Ratisbon had already been reconnoitred and reported on by Bertrand.

It is not therefore surprising to find Bulow, in 1806, when speculating on what Napoleon would have done had he been defeated at Austerlitz, writing as follows, "I believe he would have retreated on Znaym, or perhaps rather have thrown himself into Bohemia, and crushed the Archduke Ferdinand there. He would then have been in the neighbourhood of Wurzburg." Indeed, we know that he had resolved, if defeated at Austerlitz, not to attempt to return to Vienna, but to change his line of operations to the line Brunn—Passau. We see him doing the same thing again in 1807 when he ordered Thorn to be fortified, supplied, and rendered secure, so as to ensure for him an alternative line of operations—Osterroed—Thorn—Posen. In 1806 he said to Jomini: "The secret of war lies in the secret of the lines of communication." What did the Emperor mean by this? All the military nations of Europe had for ages recognised the necessity of guarding one's line of communications; there was no secret in this. The secret, to my mind, lay in the forethought, the strategic coup d'œil, and the unremitting labour which he, prior to and even during his campaigns, devoted to organising *alternative* lines of communication.

In his notes on the wars of Frederick the Great he says: "A change of the line of communications may be considered the most skilful manœuvre that strategy teaches."

This ability to suddenly change one's line of operations rendered possible by possessing alternative bases and by the timely selection and organisation of intermediate depots and magazines, confers a tremendous advantage since it affords opportunities, if promptly seized, of strategically turning an opponent, not so favoured, with all our forces without compromising our own line of communication. This is particularly instructive to us with our assured command of the sea, and we must therefore beware of the German dictum that, with restricted frontiers, enormous armies, and the necessity of following the existing lines of railway, such manœuvres are no longer possible. Our naval superiority

not only gives us freedom to select our original line of operations, but enables us to keep in view alternative bases with the object of giving affect to, what Napoleon justly calls the most skilful manoeuvre which strategy teaches.

Fourthly, this method is particularly applicable to comparatively small armies such as ours. With large armies of 4,000,000 to 6,000,000, which the nations of the Continent may be expected to employ in war, necessity may compel them to use several lines of operation. The requirements of 200,000 men are immense, but they can be met by adequate preparation in advance. On the other hand, the feeding and manoeuvring of 400,000 men, kept together on one line of operations, presents, almost insuperable difficulties, especially in a country sparsely populated or already denuded of supplies. In 1812 Napoleon massed between 300 and 400,000 men on a single line, but, notwithstanding his elaborate preparations, he had scarcely reached the Niemen before his administrative services utterly broke down.

With smaller armies these dangers and difficulties do not arise and we therefore do not need to consider them in any plan operations we may be called upon to consider.

VII.

STRATAGEM.

When Napoleon had assembled his 200,000 men on the Main and Rhine, within ten days' march of Mack's army of 60,000 on the Danube, the result of the campaign was practically a foregone conclusion. From this moment Napoleon was master of the situation. He did not, however, rely exclusively on physical force or on rapid marching for the accomplishment of his object. His active brain, his forceful intellect, and his elastic imagination were constantly at work in scheming to deceive, in conjuring up means of creating false impressions, in elaborating veils of secrecy, and in concocting stratagems—often on an immense scale—to mystify and mislead the enemy, compel him to vacillate and make mistakes, and so to increase enormously the possibility of surprise.

Prasad R

riq Ahme

Sharma

General
AVSM

General S

Strategical Studies, 1805.

When he landed in Egypt some years before, he wrote Desaix: "My task here consists in keeping all my resources hidden." On the last day of August 1805, he wrote to Prince Eugene in Italy: "You will say that I am marching away some troops of my coast army, but only thirty thousand men," and to hoodwink the cabinets of the Coalition into believing that he was still solely engrossed in his plans for the conquest of England he remained at Boulogne embarking and disembarking troops for some days after his legions were on the march to the Rhine. Then, all the more to confirm the Coalition in the opinion that no important change in his plans had occurred, he proceeded to Paris instead of accompanying the Army across France. In Paris he continued conducting affairs of state in the usual way; his correspondence with the ministers of foreign powers discovered in every line a childlike innocence of any war like preparation; in fact his whole conduct aimed at focussing the attention of the Coalition on Paris and himself, and so to further the concealment of his own designs.

Whilst here he ordered the Chief of Police to forbid the mention, by any newspaper, of the presence of the French Army on the Rhine, or at the most to mention the arrival of a frontier corps of thirty thousand men. Before leaving Paris he placed an embargo on the mails. "You are to take to-day," he wrote Fouché on September 22, "efficacious measures so that no mails shall be despatched either for commerce or the ambassadors; so that whatever may transpire in to-morrow's sitting of the senate, shall not be transmitted abroad. No horses shall be furnished either along the post roads, or on the frontiers, for any but war couriers."

When we remembered how in 1866 carelessness at the Austrian Head Quarters permitted news of their preparatory movements to reach the Prussian Staff; and how, in 1870, the publication of news in the French, British, and Belgian newspapers, furthered Moltke's plans and reduced the chances of success of MacMahon's march towards Metz, we can realize how little Austrians and Frenchmen had benefited by the example of Napoleon.

Even in his scheming to mystify and deceive, Napoleon turned to advantage the knowledge gained from studying the wars of the past. Hitherto, in campaigns between the Holy Roman Empire on the one side and France on the other, both parties had resorted to the cordon system. This system demanded that, if the Austrians advanced to the Iller, or to the line Schaffhausen—Donauschingen—Freudenstadt—Pforzheim, the French should also take up corresponding positions at Basle, Neu Brisach, Strasburg, and Selz. Napoleon, convinced that his adversaries would still adhere to their antiquated system, and that they would be guided by the assumption that the French would do the same, now transferred his headquarters to Strasburg. Here he hoped to keep Mack's eyes riveted on himself and so to divert his attention from the north and north-west, whence the real blow was to be struck.

The dispositions of his reserve cavalry were intended to accentuate this impression. Taking up the line Durlach—Offenburg—Oberkirch—Freiburg, it was to demonstrate constantly and vigorously towards the east, and to spread in all directions false information which the Emperor provided.

"You are to attract the attention of the enemy while I manœuvre and turn him. Everything must be secret and mysterious." It was thus that he wrote the King of Holland in 1806, and we see the same idea running through these preliminaries in 1805.

Secrecy was one of the strongest links in his strategic armour. During the month of August Berthier, and perhaps Talleyrand were besides himself, the only living beings in Europe who knew that Austria, not England, was the immediate quarry. Even when his army was in full march to the Danube he would not trust his general scheme to his corps commanders, but gave to each of them just sufficient information as would enable him to prosecute the march of his own corps.

Mack, a prey to misgivings, overcome by recurring doubts, bewildered by increasing perplexities, and mystified by the unorthodox methods of his opponent, was fatally compromis-

I
A
ENCES
Prasad R

riq Ahme

Sharma

General
AVSM

General S

09

ISHED C

ed when, on October 6th, he found 200,000 enemies suddenly massed on his rear. Well might he have exclaimed, with Wellington nine years later, "Napoleon has humbugged me, by God!"

During the twenty years of war that convulsed the world, Nelson, and Nelson alone, was proof against the intellectual subtlety of Napoleon, the web of whose machinations spread o'er sea and land alike. It was during those weeks of agonising suspense, of strenuous endeavour, and of repeated disappointments, preceding the triumphs of the Nile and Trafalgar that Napoleon was, for the only time in his career, confronted by an intellect that could detect, and a moral courage that could unswervingly follow, the bright clear line that alone leads to success in war.

VIII

BATTLE.

Battle is the solution of all military problems; without the battle all strategic efforts are futile. The atmosphere which produced the Coburgs, de Lacys, Macks, Wurmsers and Beaulieus did not recognise this; with them scientific manœuvres were the aim and end of war. The trouble with them was that, like the successive commanders of the Army of the Potomac, and many others before and since the War of Secession, they never marched out to "lick" anybody; all they thought of was to escape being "licked" themselves.

With Napoleon it was different; his strategic marches were preludes to decisive battles; his interposition between opposing armies had for its sole object battle at the earliest moment with all available forces, and his turning movement did not stop short with a half-hearted threat or dash with a portion of his army at the enemy's communications, but aimed at completely mastering them with all his forces, and then proceeding to give battle. The barring of the enemy's retreat was, to this daring spirit, merely the means by which he made certain of bringing his opponent to mortal combat, in which, since they fought with fronts reversed, he must either

annihilate him or be annihilated himself, "Everything," says Bulow, "with this extraordinary general is directed to the annihilation of the enemy."

Time after time we see him executing this grand yet simple movement, carrying out the strategical deployment of his army at the right time and place, moving forward with his massed forces on a single line of operations, turning one of the enemy's wings with his whole army, mastering his communications, cutting him off from his base, rushing like an avalanche upon him, and finally compelling him to fight in such a situation that defeat meant absolute ruin.

It is battle, bloody battle, as Napoleon and Jackson knew it, that sets the seal to the turning movement. Up to the battle it will easily be seen, on looking at the map, that whoever turns the enemy exposes himself to be more or less turned also. A successful battle, or an alternative line of operations, alone averts this danger. We note how clearly Napoleon recognises this, and after turning an opponent, how he always hastens with breathless eagerness to give battle.

"It is not enough, in order to operate well in war," says Jomini, "to lead one's mass to the most important points; one must also know how to employ it there. If one stands still at these points, and remains inactive, the principle will have been forgotten, the enemy can make counter-manceuvres; and in order to take from him this means, one must, as soon as one has reached his communications or one of his flanks, march sharply on him and beat him."

On the 20th September, 1792, the Allied Prussian and Austrian armies, in superior strength, stood between Kellerman's revolutionary army and Paris. The French soldiers were of such poor quality that, when an ammunition wagon blew up, three regiments of infantry fled in disorder from the field. All that the Duke of Brunswick had to do was to crown his turning movement by a prompt and vigorous attack with all his means. But instead of doing so he thought to frighten his opponents by mere cannonade, and, refusing to allow the attack to be pressed home, he fell back towards the Rhine. This cannonade of Valmy is rightly

I
A
ENCES
Prasad R

riq Ahme

Sharma

General
AVSM

General S

considered by Creasy as one of the fifteen decisive battles of the world. The check of the Allies on that day marked definitely the launching of the revolutionary crusade upon Europe. Goethe, the German poet, who was present as a spectator in the camp of the Allies, describes the consternation and the change of demeanour which he observed among his Prussian friends on the evening of the cannonade. He tells us that most of them were silent; and, in fact, the power of reflection and judgment was wanting to all. "At last," he continues, "I was called upon to say what I thought of the engagement; for I had been in the habit of enlivening and amusing the troops with short sayings. This time I said: "From this place, and from this day forth, commences a new era in the world's history; and you can all say that you were present at its birth." Military criticism, therefore, rightly condemns the Duke of Brunswick, who, having with superior numbers turned his opponent, did not at once proceed to give battle, but contented himself with engaging in the artillery duel of Valmy and so precipitated, if he did not produce, the approaching misfortunes and calamities of Europe.

And so the student of Napoleon notes with profit that, at any rate during the first twelve years of his fame, his entire strategy always aimed, with good reason, at a decision by battle. This desire to bring about a decision by battle is characteristic of all great generals. We must not overlook the fact, however, that but few generals possess the strength of mind, iron resolution, and the self-confident mental power required to fling violently all one's forces into battle at the fleeting moment. This is what Lord Roberts probably had in his mind, when in his evidence before the Royal Commission on the South African War, he expressed the difficulties he had experienced, during peace, in selecting officers for the higher commands in war.

In our judgment the only commander in history—apart from Caesar and Frederick the Great—who stands on an equality with Napoleon in this respect is Lord Nelson. He alone, in equal measure, displays that eagerness, that resolu-

tion not to lose a moment, and that ardour of character that impels to the achievement of great undertakings. "You may be assured," he wrote before the Nile, "I will bring the French fleet to action the moment I can lay my hands upon them;" and again, "Not one moment shall be lost in bringing the enemy to battle;" and once more on the morning of his crowning triumph, "I am convinced," he tells Blackwood, who took charge of the inshore lookout, just before Trafalgar, "that you estimate, as I do, the importance of not letting these rogues escape us without a fair fight, which I pant for by day, and dream of by night."

This was the bright clear line, the burning desire to find the French fleet and fight it that carried him triumphant through all the anxieties and perplexities preceding the Nile, Copenhagen, and Trafalgar. We should do well in these days when ominous clouds are gathering over the Empire, to keep well before us Nelson's lofty spirit, his ideals and his achievements, and the fire that glows whenever he in thought draws near the enemy. When considering the defence of England against invasion in 1801 and 1804, he says we must watch our opportunity. If none occurs till our enemies draw near the coast, then "Whatever plans may be adopted, the moment they touch our coast, they are to be attacked by every man afloat and on shore; this must be perfectly understood. Never fear the event."

And, so in this campaign, when Napoleon had, by his good strategy and rapid marches, placed his massed forces on the line Heidenheim—Weissenburg, he proceeded at once to complete the strategic manœuvre by passing the Danube, wheeling to his right, and attacking Mack's army.

IX.

RELATIVE IMPORTANCE OF FACTORS.

On October 20th, 1805, the remnants of Mack's army, without having fired a shot in defence of Ulm, laid down their arms. Europe was amazed and dumbfounded at the rapidity and suddenness of the catastrophe.

If we would understand the means by which these hitherto unheard-of successes were brought about we must not only follow, compass in hand, the movements from day to day, but we must occasionally pause awhile and endeavour to get in touch with the personality of the man who wrought them. We must seek to read into the workings of that master mind, to detect the birth of those successive resolutions which impart to his operations such a fascinating and logical sequence, and finally, we must endeavour to clearly recognise the moral qualities which crowned these resolutions with a vigour and determination never yet surpassed in war.

Napoleon's success in this campaign, as in all his others, was largely, if not entirely, due to his capacity for allotting to the factors in any problem their real relative importance. This military insight, this accuracy of perception, this power of penetrating to the root of a matter, disregarding unessential details and fastening solely on decisive features, was one of Napoleon's greatest characteristics as long as his mind retained its flexibility. "The man," says Carlyle, "had a certain instinctive ineradicable feeling for reality and did base himself upon fact, so long as he had any basis," and in his *Precis of the wars of Frederick the Great* the Emperor himself wrote: "The first quality of a general is to have a cool head, which receives correct impressions of things," and he once said to O'Meara: "The mind of a general should, in respect of cleanness and clearness, resemble the spyglass of an army leader and never conjure up pictures."

When Frederick the Great was besieging Prague and Daun was approaching, he did not see that the absolute abandonment of the siege and the concentration of all his forces against the Austrians was the most important thing for the moment. He tried to do both, and as the result he lost the battle of Kolin, lost Prague, and lost the whole campaign of 1757.

This intellectual power of rightly gauging the values in a problem, the result of study and reflection, however ac-

curate and penetrating, ends only in itself unless accompanied by Napoleon's power of disregarding all secondary matters, and of adhering with the utmost tenacity to the most important. At the commencement of hostilities in 1904, as far as the Russians were concerned, the most important consideration for the moment was to gain time. Kuropatkin clearly recognised this and an impartial judgement compels our sympathy with that able and distinguished soldier, who, confronted by conditions and circumstances which he could not control, except by resigning, failed to adhere with all his might to what he recognised as essential.

We have already shown (Section IV) how Napoleon, unlike his opponents, at once put his finger on the key-point—the Valley of the Danube—at which his concentrated attack should be delivered; and we shall see as we proceed how he possessed the strength of mind to disregard all secondary matters, however important they may seem to be, in order to bring his whole force to bear at this decisive point.

It is the repeated exhibition of these very qualities which we admire so much in Marlborough, and which makes the study of him as a general so profitable. In 1704 he promptly recognised the Valley of the Danube to be the key-point; he, despite all opposition, abandoned the war of posts and sieges in Flanders and marched with all the forces he could collect to what he recognised as the central scene of decisive operations; he gave evidence of his courage to sacrifice lesser things to accomplish greater; and finally, he clung vigorously and resolutely to that his strategic insight told him was most important. Before a blow was struck his enterprise had paralysed the enemy, and his culminating triumph at Blenheim was as great in its conception, as vigorous in its execution and as decisive and far reaching in its results as any of Napoleon's greatest efforts.

Let us now return to the actual operations. The first thing that impresses us, as we mentally pass in review the campaign as a whole, is the rapidity, the continuity, the smooth running and the unfaltering forward movement of

Prasad R

iq Ahme

Sharma

General
AVSM

General S

this great mass of 190,000 men when once it has been in motion. There is no faltering as in MacMahon's advance towards Metz in 1870; there is no laboured movement as in the advance of the Austrian army towards the Lech in 1809; and there is no vacillation as in Benedek's operations in 1866. His army seems, to the onlooker, as it moves forward under the hand of its master, to be independent of all exterior circumstances.

This we attribute entirely to the clearness with which Napoleon was, with each succeeding phase of the operations, what was the predominating factor for the time being; to the way he riveted his whole attention upon each problem as it arose; and to his steady refusal to allow any question of minor importance or detail to distract his attention whilst so engaged. Students of this campaign should note these reflections, since, if there is any truth in them, they upset the theory too lightly put forward by military writers as well as by historians (Mr. Holland Rose is a noteworthy exception) that every step of this campaign was elaborated before leaving Boulogne. Such ideas, however well intentioned, instead of enhancing, would, if allowed to go unchallenged, rob Napoleon of half his glory.

With Napoleon secrecy was always the first consideration, and we have already shown in Section VII how he gave this matter his personal and unremitting attention. If we compare our operations twelve years since with those of the Japanese in 1904 and of the Balkan Allies of last year, we must admit that we have still a great deal to learn in this respect.

Napoleon taught the conservative generals of Europe in his day that war is not a form of sport, with rules to the game and a standard of sportsmanship to be observed; that 'playing the game,' as we call it smacked strongly of amateurism; and that a regular game, regularly played, has the supreme defect that the opposing side may not acquiesce in it.

He rightly placed secrecy and deception in the forefront of his considerations; he does not even delegate it to any

member of his staff; he does not consider his personal attention to it as any derogation from his dignity, but he devotes all the power of his commanding intellect to it and he achieves success. History, therefore, rightly condemns the generals of the coalition whose artless and scrupulously correct methods placed their armies at such a disadvantage at the commencement of this campaign.

The next phase of the campaign which attracts our attention by the personal interest Napoleon takes in it, is that dealing with the selection of the Zone of Assembly, the collection of supplies within that zone, and the measures taken to ensure the safe and uninterrupted concentration there. In his realization of the importance of these matters Napoleon reveals himself, more than in any other way, as the creator of modern strategy. A recent critic,* who conceals the real aim of his work under a specious title, endeavours to exalt the strategical fame of 1866 and 1870 at the expense of Napoleon. A critical and unprejudiced examination of these campaigns, however, does not confirm this opinion. On the contrary, it suggests to us that the pupils, instead of surpassing, had still a great deal to learn from the master.

These matters adjusted, Napoleon could now proceed to join his army, which he had hitherto left to his subordinate generals. But now, with the passage of the Rhine and the possibility of coming in contact with the enemy, his presence is required. With the passage of this river begin those offensive operations which culminate in the surrender of Mack's army at Ulm.

The key to the vigour, the continuity and the rapidity of that offensive is again to be found in the great strategist's power of seeing things in their true perspective. Having given the best that was in him to placing his magazines and supply questions on a proper footing, he now considers the uninterrupted forward movement of his army the all important factor to which everything else must take

*General von Caemmerer, "The development of strategical science."

a secondary place. He, of course, still continues to keep his eye on his commissariat, but he does not allow it to obscure his military insight, nor does he allow it, for a single instant, to interfere with the course and direction of his military operations when once his forces are set in motion. In other words, having done the best he could with the means at his disposal for his supply services, he now sets them back into their secondary place, and, taking his place on the box seat, he urges his army of 190,000 men forward regardless of the cranky teams and rickety wagons behind.

On October 6 Berthier wrote of Marmont: "In all the letters which General Marmont writes me, he refers to victuals. I repeat that in the movements and wars of invasion carried on by the Emperor there are no magazines; it is the affair of the commanding generals of the corps to bring together the means of feeding the troops in those lands through which they pass."

In January 1900 General Buller decided to march to the west, to seize a passage across the Upper Tugela and, thereby, to turn the Boer position overlooking Colenso. The idea was an excellent one and all it required on the part of the Commander-in-chief was rapidity, continuity, and vigorous prosecution of his plan, when once his forces were set in motion.

But what do we see. From the very moment the order to march is given and throughout the whole operations, the question of his commissariat constantly obtrudes itself upon him; it clogs his footsteps, obscures his strategic insight and repeats that vacillation and delay such as occurred, for the same reason, in MacMahon's advance towards Metz in 1870.

On the 21st September, 1805, Mack's army of 70,000 men reached the Iller. His intention was to hold on there until the Russians came up. The occupation of this forward and extremely dangerous position, considering the strength of his army, was based upon the calculation that Napoleon's army at Boulogne would not be able to reach the Danube until very much later than it eventually did.

The possibility of that advance, however, was fully recognised, and a general of any strategic insight whatsoever would have seen that, immediately the Iller was reached, the all important demand of the moment was to obtain early, accurate, and regular information from the west and north of the approach of hostile forces of all arms in large numbers. This, and this alone, would enable him, should his calculations go astray, to manœuvre so as to readjust the situation or to take advantage of his opponent's errors.

If we compare this situation with that of General Penn Symons at Glencoe in 1899, we shall see, in both cases, how generals with much experience in war but lacking any scientific or profound study of war on a large scale, may fail, however brave and war experienced they may be. In both these cases the generals failed because they lacked the ability to resolve the problem before them into its constituent parts, and because they lacked the sense of perspective which sees these parts each in its true relation to the problem as a whole. The primary condition upon which success should have been based was entirely overlooked or inadequately dealt with, and, in both cases, the result was the same, namely, strategical failure.

When confronted with any strategical problem we must, therefore, first ask ourselves, what is the most important consideration for the moment? If we experience any difficulty in answering this question, nay, if the answer does not come to us almost intuitively, then our strategic edifice is unsound and will assuredly collapse at the first sound of the enemy's guns. It is the logical pursuit of his strategical aims which we admire so much in Napoleon in this campaign.

X

DETACHMENT OF MIND.

Not only must the general possess the clearness of perception to detect what is important for the moment, but he must be gifted with the strength of mind to set aside what his insight tells him is of less importance. "It is

one of the surest marks of the true general," says Count Yorck von Wartenburg," that he knows how to set aside details and matters of secondary importance, and to combine and direct all the moral and physical forces at his disposal to the principal aim: once the latter is fixed upon, the necessary details follow as a matter of course, at any rate any capable officer on the staff of the general can determine them."

Napoleon possessed the ability to detach himself from what he regarded as unessentials—which he rightly left to his subordinates—in a marked degree. He gave convincing evidence of this at the very commencement of his career. In 1796, having concentrated superior forces against the Austrians at Montenotte, he left the direction of the battle to his subordinate, and, betaking himself and his staff to a neighbouring hill-top, he devoted himself exclusively to what he now recognised as important, namely, the hurrying up of all detachments to the decisive point.

How many commanders, in like case and at the beginning of their careers, would have foregone the glory of personally directing in this their first battle? How many would have had the moral courage to devolve their authority upon a subordinate on such a momentous occasion? It was, of course, necessary to win the battle of Montenotte; but, having collected superior forces against the enemy and having given those forces the proper direction towards the battlefield, he now left their control to his subordinates, and concentrated his whole attention upon what was now, as the situation unfolded itself, the most important.

His detractors have repeatedly seen in Napoleon's conduct toward his subordinates one of the main causes of his final unsuccess. They aver, with more ardour than truth, that he allowed them no latitude, that he devolved no responsibility upon them, and thereby failed to educate a body of intelligent coadjutors. They say the same of Wellington.

No commander either before or since his time, allowed his subordinates, when at a distance, greater freedom of judgment than Napoleon. He repeatedly said, it is true, "I alone

know what I want done;" but we admire him all the more for this because we consider most of the failures in modern war—Benedek, MacMahon, Bazaine, Gyula, Pope, Buller, Zasluch came to grief because they did not know what they wanted to get done, or, if they did know, they failed because they could not focus their whole attention upon it to the exclusion of details or matters of secondary importance. "I never met," says Marmont, "with a single man of distinction, and capable of the conduct of great affairs, who was not in the habit of putting aside all details and contenting himself with regard to the work he had entrusted to others."

Julius Caesar's greatest achievements, as of all others who have become great in the domain of war, were largely due to his ready recognition of what was important in any problem that confronted him, to his stern refusal to entertain any visionary plans until his main object was accomplished, and to a detachment of mind that enabled him to allow things to take their course elsewhere, provided he was allowed to go through with what was before him.

It has been well and truthfully said of Lord Roberts that: "Of the qualities essential to generalship, he was gifted with the imaginative intuition necessary to divine the movements and the intentions of an enemy, with the courage of his own judgment, and with the true thirst for victory—the keen will to achieve his main purpose, undistracted by subsidiary issues, and ever fresh in spite of worries or delays. Above all he possessed in a rare degree the unconquerable optimism that can disregard all dangers and difficulties once a course of action is decided on."

Napoleon repeatedly gave evidence of his ability to set aside obstacles, to leave to others unessentials, and to neglect the lesser in order to achieve the greater, in wonderful perfection. Does not the campaign we are studying prove this? Having, at the end of August, set his armies in motion from Boulogne, he betook himself to Paris, where he remained until late in September. During the whole of this time he confined himself to regulating and controlling the

great essentials, and left to his generals the conduct of all the details connected with the march of their corps from Boulogne to the Rhine.

Then again when his army of 190,000 men had crossed the Danube and was engaged in its great wheel to the right, news ran in that the Russians, variously estimated at from 60,000 to 80,000 strong, were advancing from the east and that they were already approaching the river Inn. Napoleon now detached Davout's and Bernadotte's corps towards Dachau and Munich to contain the advancing Russian army. At the same time, according to the military advisers of the Coalition, the Austrian army in the Tyrol was expected to paralyse the action of any hostile army that dared to operate south of the Danube.

If we reflect for a moment on the situation brought about by Napoleon's wheel to the right—Mack's yet undefeated army of 70,000 men in front; and Austrian army in the Tyrol threatening his left; a Russian army of 60,000 marching on his rear—we shall realise how easily this threat from the left and this actual advance against his rear might have deflected the attention of a less able commander than Napoleon from his immediate object namely, the destruction of Mack' army. At the conclusion of his campaigns in Italy he wrote:—There are in Europe many good generals, but they see too many things at once; as for me I see only one thing, namely, the enemy's main army. I try to crush it, confident that secondary matters will then settle themselves." "All naval operations undertaken since I have been at the head of the government," he said on another occasion, "have always failed, because the admirals see double, and have learned—where I do not know—that war can be made without running risks."

The student is requested to refer to pages 111—113 of Volume 2 of our excellent official history of the Russo-Japanese war, where he will see how, on the one hand, the mere rumour of the presence of a Russian force near Pei-tai, whence it threatened the flank of the 2nd Japanese Army,

* Times History of the war in South Africa. Vol. II.

caused Marshal Oyama to suspend for a time the plan he had in hand; and, on the other how the actual presence of the Japanese 12th Division north of the river Tai-tzu, whence it menaced the Russian lines of communication with Mukden, caused General Kuropatkin to abandon his intention of assuming the offensive against the numerically inferior and exhausted Japanese forces south of that river.

It was otherwise with Napoleon. Neither the menace of the Austrain army in the Tyrol nor the actual presence of the Russian army in his rear, was sufficient to cause him for a single moment to waver in his resolution. He set the former aside as being unworthy of consideration for the time being, entrusted the handing of the latter to two of his subordinates, and kept his attention solely and unflinchingly riveted upon his main object, the destruction of Mack's army.

It is true mistakes occurred as they do in all campaigns; but like the eddies and ripples at the side of a great flowing river, they did not affect the onward course of the main current, so clear and all-embracing was Napoleon's glance.

XI.

PLIABILITY IN THE CHOICE OF MEANS.

Side by side with the ability to allot to factors their real relative importance, to disregard unessential details and to fasten solely on decisive features, is the necessity of being able to modify one's plans with changing circumstances. It has often been stated, and especially with reference to the campaign we are studying, that, from the moment his forces were put in motion, Napoleon completely dominated the will of his opponent. There is no doubt that his masterful will, fortified and emboldened by that numerical superiority which he always brought to bear at the point of decisive action and the rapidity and unsurpassed ability with which he manœuvred his immense armies, invariably enabled him to do so. It is, indeed, contrary to the nature of a great

man, in any sphere of life, to have his course of action imposed upon him by anyone.

But there are times in the campaigns of Napoleon when we clearly see him modifying his plans or changing the course of his operations, in accordance with changing circumstances. Nor are these modifications always the result of any premeditation on his part; on the contrary, they are often imposed upon him by the action of his opponent.

What we admire in him on these occasions is this, that although there was at such times a temporary surrender of the initiative, still this surrender was but a momentary one, for he immediately sought—and invariably with success—to turn the changed conditions to his own advantage. "His calmness," wrote General Clarke in 1796, "amidst the most exciting scenes is as remarkable as his extraordinary rapidity in changing his plans if forced to do so by unexpected circumstances." It is, indeed, characteristic of him that his mind was always working out the possibilities that might arise, evolving new plans as fresh situations were created, or as he imagined they might be so.

Thucydides says that Themistocles possessed an intuitive genius for extemporising the best measures in every emergency, a quality which, says the historian, raised him above all his contemporaries.

With Napoleon, as with Themistocles, this ability to adapt his plan at a moment's notice to diverse circumstances was probably inborn; but his glory lies in the fact that he fostered and cultivated this gift of nature by profound study and reflection; he pondered over the changing fortunes of by-gone campaigns; he meditated upon the strange vicissitudes of fortune that threatened so often to overwhelm Charles XII. and Frederick the Great; he constantly kept his mind at work considering what resolutions led in the one case to victory, in the other to defeat, what actually took place and what might have happened; and, as General Clarke wrote, he came to the command of the army of Italy with his mind prepared to take in and judge quickly of new and unexpected conditions. His campaign of Arcola affords ample

and indisputable proof of this, and this is what he particularly wished to emphasise when he said that the great generals, anterior to himself, had accomplished their great deeds by the correctness of their combinations and by a careful balancing of means and results, efforts and obstacles.

This explains how great commanders disclaim ever having had any cut-and-dried plans of campaign.

One morning, while the army of Charles XII. was halted at Tatarsk on the road to Moscow, General Gyllenbrook was surprised to see the King enter his tent and still more surprised was he when Charles said to him: "In what direction think you the army should march now?" Gyllenbrook replied that it was impossible for him to counsel anything so long as he remained ignorant of the King's plans. "I have no plan," replied Charles.

Lord Uxbridge, as next senior to the Duke of Wellington at Waterloo, came on the morning of the great battle to ask him his plans, and said that he should like to know them, because if anything should happen to the Duke, the command would devolve on himself. "Plans!" was the answer. "I have no plans. I shall be guided by circumstances." Napoleon often said the same.

What are we to understand by these declarations? Were these great commanders mere knight-errants who marched aimlessly about the plains of Lithuania or along the valley of the Danube or across the mountains of Spain, seeking whom they might devour? Sarauw, the historian of the campaigns of the Swedish King, rejects this hypothesis as fundamentally false, and proves to demonstration that every one of his undertakings was based on a well thought out plan, "carried out with iron consistency," but with a remarkable pliability in the choice of means to gain the end in view.

Napier says that, "The Duke of Wellington possessed that most rare faculty of coming to prompt and sure conclusions on sudden emergencies. This is the certain mark of a master-spirit in war; without it a commander may be distinguished, he may be a great man, he cannot be a great

captain; where troops nearly alike in arms and knowledge are opposed, the battle generally turns upon the decision of the moment."

Wellington, like Charles XII, also always had his "guiding idea" but he brought to his task a mind—the priceless reward of years of study and reflection—which could at once marshal all the facts of the case, which judge clearly and quickly, and which could assess at a glance, and with absolute accuracy, all the factors in the problem. If, in addition, we remember that the Duke was a practical man of war, who could handle and manœuvre his army—Salamanca is evidence of this—we shall have no difficulty in understanding what is implied in those words to Lord Uxbridge: "I have no plans. I shall be guided by circumstances."

The student of Napoleon cannot fail to come to the same conclusion regarding his operations, namely, that in each and all of them he started with some perfectly clear "guiding idea" which he adhered to with indomitable resolution and firmness of mind. But he did not endeavour to provide for every possible event in all its details beforehand, or to forecast the individual manœuvres by which the conception contained in the "guiding idea" was to be effected, or to prearrange for the measures by which he would counteract or take advantage of any possible movements on the part of the enemy. On the contrary, confident in his ability and versatility to adapt his means to the end he had in view, he left all such possible eventualities to be dealt with as they occurred in the course of future operations.

This is what these great generals meant when they so often said that they had no plan of campaign.

It is only the humdrum leader, who, having given birth to an idea, cannot give it up or vary it in accordance with new circumstances and unexpected conditions.

"A general must say to himself several times a day, 'What should I do if the enemy appeared in my front, on my right or on left flank?' If he finds it difficult to answer

such questions, he is not in a good position or all is not as it should be, and he must alter it."

Thus wrote Frederick and Napoleon, and this is what Colonel Henderson implies when he so often refers to Stonewall Jackson's habit of riding alone in silent communion with himself, at the head of his "Stonewall" Brigade. "It was unquestionably at such moments," says Henderson, "that he was working out his plans, step by step, forecasting the counter-movements of the enemy, and providing for every emergency that might occur."

On the 31st August, 1904, the 12th Japanese Division crossed the Tai-tzu. Marshal Oyama, rightly convinced of the futility of frontal attacks, had modified his plan.*

"The crisis of the battle of Liao-yang was reached," says our Official History of the war, "during the morning of the 31st August, and the issue of the war depended upon General Kuropatkin's action at this juncture." In other words, the issue of the war hinged upon General Kuropatkin's ability or his inability to turn the changed situation to the advantage of the Russian army. The Russian army was in excellent spirits; it had held its own—as we might naturally expect after our experiences in South Africa—with the greatest ease against the repeated, but useless, frontal attacks of the Japanese, and it numerically out numbered its opponents by nearly 50,000 men, most of whom had not as yet been seriously engaged. The hour and the opportunity had come, but the man was wanting.

"If," says Napoleon "I always appear prepared, it is because before entering on an undertaking, I have meditated for long and have foreseen what may occur. It is not genius which reveals to me suddenly and secretly what I should do in circumstances unexpected by others, it is thought and meditation."

"The strategist's attention," says Prince Kraft, "must not be directed to one point only, but all eventualities must be

* This move was initiated by General Kuroki, but the eventual responsibility lay with Marshal Oyama.

thought over. Nothing, not the most extraordinary action of the enemy, must surprise him. He must be prepared for everything by previous reflection, and be ready at once with the proper reply."

The new development in Marshal Oyama's plans, on August 31st, found the Russian commander-in-chief quite unprepared, by a prompt and vigorous utilisation of the superior means at his disposal, to turn the changed situation to the advantage of the Russian arms.

If the student will refer to the strategical offensive undertaken by the Bulgarian Army in October 1912, he will see, as ably described by the military correspondent of the Times, the Bulgarian commander-in-chief, keeping his means hidden, advancing vigorously, keeping his army in hand, balancing the possibilities of the situation and ready to take advantage, with all his forces, of the situation as it unfolds itself.

This is Napoleonic war in all its pristine grandeur.

In 1813, when Napoleon's great array was advancing on Leipsig appearances pointed to the main body of the enemy being found behind that town. A hostile division which fell back on that place, vigorously disputing the French advance, tended to confirm this impression, when suddenly a furious cannonade was heard away in the direction of the right-rear of the Army. The combined Russian and Prussian armies, 80,000 strong, had fallen, as it were, from the clouds, upon his right flank. Napoleon, mentally prepared for every eventuality, turned his eyes in the new direction, thought for a moment, and on the instant changed his plan. This change was not merely a temporary expedient to stave off defeat, but it was a change in which energy, resolution, fertility of resource and ability to manœuvre were promptly brought into play to turn the tables upon the enemy and to snatch victory from threatened disaster.

It is on such occasions that we see Napoleon at his best. He brought to such emergencies a mind fully prepared beforehand, by constant preoccupation, for any conditions that might occur, and a tremendous moral power which alone

imparts the necessary steadiness and resolution to a plan once formed.

The campaign we are studying does not present any such striking examples of this particular excellence; nevertheless even here we shall see him modifying, or holding himself ready to modify, the direction and scheme of his operations as the situation unfolds itself, whilst still keeping his predetermined strategic scheme in view.

For two years he had brought all his intellectual powers to bear upon his project for the invasion of England; 150,000 men were to ensure the success of the undertaking, and the mastermind of the First Consul directed the whole enterprise down to its smallest details.

On August 3, 1805, he assumed command of the Army of the Ocean at Boulogne and held a grand review of one hundred thousand men. The moment for the invasion of England had arrived. Napoleon, however, was not the man to confine himself to a single scheme. Alternative plans were always passing through his brain; it was his custom, as he said, "*faire toujours son theme en deux façons.*" On August 26 his army began its march from the Channel coast to the valley of the Danube. The great warrior had suddenly changed his plan.

His detractors have lingered over the failure of his administrative services during the rapid march to the Danube. But the more mud they throw the more we admire him as a general. How many commanders in like case would not have plied their government with objections to such a sudden and unheard of transformation? How many would not have asked for time to arrange for supplies and to organize their transport services? Not so Napoleon. Time was of the essence. Time was more precious to him than the lives of a few soldiers. "If the devil stands at the door," said Lord Nelson to St. Vincent in 1803, "we shall sail to-morrow forenoon." Cannon might be wanting, dragoons might have to march on foot, cloaks and boots might be difficult to get; but, like Blucher's army in 1814 and our own gallant Sir Hugh Rose's army in 1858, on, on his army

went to its triumph at Ulm and its crowning glory of Austerlitz.

Why did Napoleon select the line Hagenau—Spire, behind the Rhine, for the assembly of his army? Did he consider the advantages which, according to Hamley, the angular form of the frontier formed by the Rhine and the Main, confers on an army operating against an enemy within the angle so formed?

War once decided upon, his first act always was to bring together all his means as rapidly as possible and in such a position as would enable him to do so secretly, quickly, and without fear of interruption by the enemy. His instructions to Berthier, at the opening of the campaign of 1809, are convincing evidence of this. Having regard to the location of his corps along the Channel coast and in Holland, the area selected for the assembly of his army in this campaign fulfilled these conditions.

But it did more. It enabled him to provide for various eventualities; it admitted of a pliability in the choice of means which goes far beyond the mere geometrical relationship of frontiers.

- (a). Should the Austrian army continue its offensive towards the Upper Rhine, the French army could operate against its flank and communications, either on the left or right bank of that river.
- (b). Should it, as the Austrian army had so often done before, take up a forward position to watch the exits from the Black Forest, the French army was equally well placed to gain its flank and rear.
- (c). Should it remain behind the Inn, or should the Russian army advance via Waldmunchen to cooperate with it, the French army was in a position to act effectively in either case.

On September 26 the Emperor put his forces in motion. His "guiding idea" was the defeat of the enemy's forces in the valley of the Danube.

Once the offensive is assumed we see him keeping his mind open to every fragment of evidence. Judging clearly and acting vigorously, sternly repressing fancies and chimeras, and unflinchingly refusing to be tempted away from his main purpose. But, as news comes in from time to time, we also see him utilising or arranging to utilise his means, that is to say his operation, in such a manner as to take advantage of changing circumstances or to meet any reasonable variation of the governing conditions. First a direct advance in mass, for he did not then know that the Austrians were going to push forward unsupported into Bavaria, but, when he received news from Murat that the enemy was approaching Ulm, the corps were brought closer together, and the general direction more to the left was given to the whole army, then, thinking that the Austrians would fall back on his approach, he drew up a memorandum embodying his ideas for a further and more extensive sweep to the left.

This memo was not issued, but on September 28, when certain that the Austrians were standing fast at Ulm, he changed the direction of his army slightly to the right for turning them by a more direct and shorter line.*

We see in these changing ideas how fully prepared Napoleon was to immediately take advantage of any change in the situation. What we must clearly understand is this that these changes had a solid basis; the "guiding idea" was not lost sight of and in following it up the variations mentioned were the result of a sound strategical judgment and of the specialist's ability to correctly weigh the evidence before him. Wishes were not mistaken for facts. The development of his plan grew only with what his strategic insight and pitiless logic recognised as the actual circumstances of the case; his mind worked only within the circle of ascertainable fact.

To Stanhope the Duke of Wellington explained his own successes and the failures of the French marshals opposed

* The writer is indebted to Count von Wartenburg's work, "Napoleon as a general" for these facts.

to him, in the following words: "They planned their campaigns just as you might make a splendid set of harness. It looks very well, until it gets broken, and then you are done for. Now I made my campaigns of ropes. If any thing went wrong, I tied a knot, and went on." The Duke meant, of course, that he adapted his strategy to facts, and to facts as they emerged.

If the reader will take the trouble to go to the Austrian Headquarters, he will find there a general who tells his emperor that Napoleon cannot cross the Rhine with more than 70,000 men, whereas we know that he crossed that river with nearly 200,000; who convinced himself that Napoleon's army could not reach the Danube before November 10, whereas it actually approached that river on October 6; who hugged the belief that Napoleon would advance from the west through the Black Forest or by skirting its southern border, whereas he actually came down from the north. He will, in short, see there a general who saw things only as he wished to see them, who mistook wishes for facts, who could not weigh evidence aright, whose calculations were fertile in miscalculation and who consequently lost the campaign.

"The pursuit of a preconceived idea which is not based on the actual state of affairs," says von der Goltz, "involves the risk of misunderstanding the reality. In chasing the ideal that one's own brain has conceived, it is very easy to overlook what ought to be done at the particular moment. The belief in a single method that promises victory as the outcome of a single plan has always led men to ruin, as it led Mack and Massenbach." On November 10 1805, Kutusov with his 35,000 Russians crossed the Danube at Mautern, burned the bridge behind him and took up position near Krems. Hitherto the Russo-Austrian army had steadily fallen back before Napoleon, and he had hoped that the necessity of defending Vienna would induce them to halt and accept battle on the south bank of the Danube. But, by the transference of their army to the left bank of that river, the whole situation was suddenly changed.

On the next day the Russians attacked Gazan's Division of Mortier's Corps in the Durrenstein defile and practically annihilated it. Instantly the Emperor saw how he might turn the changed conditions to his own advantage. Kutusov seemed inclined to hold on at Krems. "This," said Napoleon, "is the great opportunity to cross the Danube (at Vienna) and to drive the Russians from Krems by falling on their rear." Murat, supported by Davout and Lannes, was accordingly promptly ordered to resume his advance on Vienna, to cross the bridge there, and, by attacking Kutusov, prevent his junction with the second Russian army in Moravia. Soult and Bernadotte, however, were ordered to stand fast in the neighbourhood of St. Polten.

Standing at St. Polten Napoleon now in effect says to himself: "Should Murat's advance induce Kutusov to fall back from Krems, I shall cross with Soult and Bernadotte at Mautern. Should, however, Murat succeed in stealing a passage at Vienna, I shall follow him with all speed."

His plan was to cross the Danube and we see the great master of strategy, from his position on the south bank of that river, balancing between a quiet passage at Mautern should Kutusov fall back, and a stolen crossing at Vienna should he remain in position at Krems for another few days.

This attitude of the great soldier is extremely interesting. We saw the same thing in his arrangements for the passage of the Po in 1796. In both cases he reveals a prudent pliability in the choice of his means to achieve the end in view; he shows how a general should, by constant reflection and forethought, be instantly ready to make the best of any circumstance that interrupts his plans; he shows us how his conception is always elastic enough to meet any reasonable variation of the governing conditions; and, above all, whilst poising between two or more alternatives, he shows us that his final decision and action are based upon actual facts as they reveal themselves and not upon speculative theories or groundless assumptions.

XII

ABILITY TO MANŒUVRE.

We recognise the general, then, to be he whose mind is ever on the alert and in a constant state of preparedness to turn to his own advantage any change in the situation and to detect a gleam of good in any sudden reversal of fortune; who, when luck suddenly goes against him—as it did against Napoleon at Caldiero—refuses to be disheartened, but, promptly changing his plan, backs it up with all the means at his disposal—infantry, cavalry, machine guns, mounted rifles and batteries—which he hurls with renewed vigour, increased confidence and unflinching determination into the scale in the new direction or in furtherance of the new plan or changed idea.

But to do this the general must be able to manœuvre; he must have the confidence, born of constant practice with all arms in combination, that, come what may, good or bad fortune, he can at once utilise his means to confirm an advantage gained or to bring about a readjustment of the situation, either at the point of threatened disaster or in some other part of the field.

It was Napoleon's supreme excellence that he realised and repeatedly practically exemplified from the very commencement of his career, that mobility conquers immobility, that movement is the driving wheel of strategy, and that the general who can handle brigades, divisions, army corps and armies, will always control the situation and win as long as he has the good fortune to find himself opposed by generals, who, whatever their theoretical knowledge of war may be, fail in practical aptitude for manœuvre.

For us soldiers, who desire to glean something of everyday practical utility from the study of military history, this is the greatest significance that the Campaign of Ulm possesses for us. Two thousand years of history confirm it. From Marathon to Mukden, from Cannae to Colenso, from Arbela to Sedan, the story of war is a story of victory and defeat, that is to say, the supremacy of mobility over im-

mobility, of movement over inaction, of ability over inability to manœuvre.

Croesus advances to attack Cyrus with two to one, in point of numbers, in his favour. Cyrus watches his opportunity; a gap between wings and centre offers it. Into this gap Cyrus pours with his chosen division, takes Croesus' centre in reverse and utterly overthrows him and his kingdom.

Miltiades, with 11,000 men, faces the three-fold number of Persians at Marathon. The Persian army breaks his centre; but Miltiades has his men well in hand, wheels his strong wings inwards, falls upon both flanks of the Persian advance, overwhelms it and saves his country from the yoke of Asia.

A century later, at Leuctra and Mantinea, Epaminondas introduces the tactics (which Alexander the Great in ancient times, and Frederick the Great in modern times, made so famous) of concentrating an overpowering force on some decisive point of the enemy's line, while we kept back, or, in military phraseology, refused the weaker part of his own. The fame of Epaminondas as a general rests on a firm foundation, namely, aptitude for readily handling an army. It has survived the change of centuries, and it will continue to live long after Mack, Benedek, Bazaine, MacMahon, and many others we could mention, have been forgotten.

But before Epaminondas another great warrior had flitted across the military stage of the ancient world, whose acts and contributions to military science are well worth recalling at the present juncture. Xenophon commands the rear-guard in the Retreat of the Ten Thousand across the mountains and rivers of Asia Minor, from the banks of the Euphrates to the shores of the Euxine. He shows us how a general, confident in his capacity to handle his forces, should command a rear-guard.

There are many, too many, at the present time, who are inclined to throw doubts and engender misgivings upon the expediency of using a portion of an army to gain time

for the Commander-in-Chief to mature his plans or concentrate his means. These doubters would do well to again take up the study of their *Anabasis*. They will find there the inspiration to again "put on their boots of Montenotte and Castiglione," as Napoleon said to Augereau in 1814, when he saw that the military resolve of former days was ebbing with advancing years.

But to do this they must abandon the desk and the office stool for the field, the manoeuvre ground, the battalions, the guns and the squadrons. It is there and with these that one puts on the boots of Montenotte and Castiglione; it is there and with these that the Xenophons, the Craufords, the Neys, the Miloradowitchs and the Solomkos are made.

Then comes the Great Alexander who subverts the Persian Empire, overruns Asia, and carries his arms without a single failure from the mountains of Macedonia to the walls of Multan. And all this because Phillip has given him a good instrument, superior in fighting capacity and training—like the voluntary long service British Army of to-day—to its poorer trained opponents; because Alexander manoeuvres and attacks; because he confirms the advantage of movement over brute force and inaction; and finally because in ability to handle his army he is superior to all the generals opposed to him.

His men are veterans, like the Grand Army of Napoleon, and he obtains from them an accuracy of movement and a steadiness of evolution such as his father's recruits or briefly trained conscripts would have floundered in attempting.

His successors forget the swift movements and facile evolutions which had enabled Alexander to hurl all his means at the right time against the weak point of the enemy's array, and the hitherto unconquerable Macedonian phalanx, in feebler hands, succumbs to the mobility of the Roman legions.

The consular armies of Rome always attack; but their attacks are usually in front simply; they seldom manoeuvre.

Hannibal ruthlessly lays bare this defect, and teaches the Romans what to expect when skill in manœuvring is pitted against inaction and incapacity in war. His victories are the triumphs of power of manœuvre and practical generalship over incapacity and inability to handle troops. His career of almost unbroken triumphs is interrupted at Nola, where Marcellus, taught by his great adversary, resorts to flanking attacks and turning movements.

It is Nero, who, wheeling a brigade of his best men round the rear of his own army, fiercely charges the Spaniards and Africans, wins the victory of the Metaurus and thereby assures for centuries to come the progress and glory of the Roman world.

In the larger domain of war, in the realm of strategy, Hannibal in the ancient world stands alone, like a rock in the ocean. He, like Napoleon, teaches the enemies and his successors the fundamental principles of war; but in neither case and in no sense does Scipio or Nero, Moltke or Oyama, approach their master's stature. Hannibal shows the Roman generals that there is something more in war than brute force. Whether in his weak or in his strong years, his years of Nola or of Trasimenus, it is his marching to and fro, his manœuvres, offensive or defensive, which paralyses the action of his less able opponents and earns for him the highest niche in the temple of military fame.

Cæsar steps upon the stage. Have we understood correctly the inspiration which Napoleon derived from his study of the Gallic wars? If we have not we cannot read aright the campaigns of 1796. What Napoleon saw in Cæsar's Gallic wars was a keeping in hand of all his means, a quickness of decision, a rapidity of execution, and a supreme ability in handling his army on the theatre of war. It was this skill in controlling, in directing, and in hurling his forces upon the decisive points of a theatre of operations, or against the weak spot of an opposing army, which, more than anything else, has rendered immortal the campaigns of 1796, as it did those of Cæsar eighteen centuries before.

We might prolong this story of victory on the one side and defeat on the other down to the time of the Campaign of 1805; but it would be merely repetition of the same tale, namely, the victory of mobility over immobility, of action over inaction, of co-operative action over disjointed efforts, of confidence over hesitation in handling armies, of practical leadership over theoretical.

If we were to continue the story down to Lule Burgas we should find, notwithstanding the introduction of quick firers and smokeless powder, that it is still the same, the victory of Napoleon I over the Archduke Charles, of Blucher over Napoleon, of Napoleon III over Gyulay, of Von Moltke over Benedek, Bazaine and MacMahon, of Kuroki over Zaslulich, of Oku over Stackelberg, of Oyama over Kuropatkin and of Savoff over Nazim Pacha.

Victory does not go to the men that march or to the country that lavishes its money on mules and carts, but it goes to the general in whom years of practice has bred a confidence and an aptitude for handling and manœuvring brigades, divisions, army corps and armies. This is what Napoleon meant when, in April 1797, he wrote to the Directory: "The armies of the Rhine can have no blood in their veins." And surely this is what Jomini meant when he, referring to the poor quality and condition of the troops with which Napoleon commenced his career, wrote, "I believe Napoleon would not have done more even with the best equipped troops, nor Frederick less, had the conditions been reversed." "But above all," says the *Times* History of the war in South Africa, "Roberts realised—and realised it not merely as a theoretical commonplace to be assented to and then dismissed from thought, but as the law of his action—that against an enemy capable of fighting on even approximately equal terms the essence of strategy lies in surprise, and in that rapidity and freedom of movement by which alone it becomes possible to surprise one's enemy and to impose upon him in the midst of hurry and uncertainty, the alternative of abandoning some im-

portant objective or of trying the fortune of battle under conditions not of his own choosing."

The mere realisation of these principles, as the Times History says, is in itself insufficient. It is in their prompt, confident, and vigorous application with guns, army corps and mounted troops, that the secret of victory is to be found. Herein lies Lord Roberts' glory. The secret of war does not lie in the legs of the men nor in those of the transport teams, but it lies entirely in the brain which sets those legs in motion. Jomini preached this doctrine, Marlborough's and Napoleon's actions demonstrate it, Moltke's, Lord Roberts' and Marshal Oyama's operations confirm it.

In this campaign of 1805, as in those of 1796 and 1800, we see the smoothness and precision with which Napoleon handles troops on a great scale in his strategical operations. To back up his own practical handling of his army he demanded:—

Firstly, brevity of orders, frequent intercommunication, and a constant state of readiness on the part of troops and commanders to move or change the direction of their march. The captain must be ready to march in five minutes. The battalion commander must be ready to move off within the same short period, and larger bodies within a quarter of an hour.

Secondly, immediately preceding the opening of a campaign, he insisted on a careful reconnoissance, by specially selected officers, of the country over which the operations were likely to be conducted. These reconnoissances were not entrusted to junior captains and subalterns, as is the case in some armies of to-day, but they were entrusted to senior officers of ripe experience and with a broad outlook on war. Thus, in the campaign before us, on the 23rd August, Murat and Bertrand were sent to Bavaria; they were to reconnoitre carefully the fortresses, the tributaries of the Danube, and the roads, and collect as much information as possible as to the passes leading into the Tyrol and into Bohemia, as well as those of the Black Forest. A few days later Savary followed them, but by this time the

Emperor's ideas had assumed a more definite form, and the orders which he gave to this officer were more detailed. He was to reconnoitre the roads, which starting from Phillipsburg, Bruchsal, and Durlach, crossed the Neckar at Heilbronn, Cannstadt and Esslingen, and led thence to the Danube, Dillingen, Gundelfingen and Ulm, as well as the cross-roads between them.

These reconnaissances, carried out by general officers, had not for their object the obtaining of information regarding the enemy's movement, but rather the collection of topographical and statistical information upon which the commander-in-chief could base his army and for manœuvring it on the theatre of war.

During the actual operations his cavalry were frequently called upon to supplement the reports of these officers. "Let me have a description of the country you are passing through," is constantly reiterated to his cavalry commanders. In his orders of the 7th October, 1806, he not only asks his cavalry for information regarding the enemy, but he lays special stress upon the necessity for their obtaining and transmitting the fullest information concerning the network of intercommunications in the country beyond the Frankenthal. He asks particularly for information concerning the lateral means of communication between:—

- (a). Saalburg and Saalfeld.
- (b). Saalburg and Hof.
- (c). Lobenstein and Grafenthal.
- (d). Lobenstein and Hof.

Always in a state of mental preparedness himself, this information, gathered one or two days ahead of his marching infantry columns, enabled him to throw the whole of his corps, with the greatest rapidity and by the shortest routes, against the enemy's army immediately contact with it was obtained.

Thirdly, he insisted upon the principle of having but one army on one theatre of operations, one line of operations, one commander-in-chief controlling and compelling the co-operation of all his means for a single end, and alter-

native lines of communication. All this had but one object in view, namely, the facilitation of manœuvre, which alone would enable him to put into practice what Willisen rightly regards as a fundamental principle which should be inherent in every attack: "Strength against weakness, front against flank, superior force against inferior force, masses against the decisive point."

We have already (Section VI) dealt with the advantages the Emperor derived from operating on a single line and (Section XI) from selection of his zone of assembly. We shall not refer to these again except to point out here that in both cases the final object aimed at was to ensure ability to control and compel unity of action of all the forces under changing conditions. Napoleon's freedom to manœuvre strategically was still further facilitated by his practical provision in providing with supplies, ammunition, hospitals etc., and in strengthening, the places he called depots. These places were, however, much more than depots, as we understand the expression. They afforded him the means, of which he so often availed himself to the consternation of his enemies, of suddenly abandoning one depot or line of depots and basing his army on another, thus completely changing the orientation of the whole campaign.

This not only explains the freedom with which he manœuvred his whole army in any direction, but it also explains the absence of any anxiety on his part whenever his opponents endeavoured to bring him to his knees by marching against his communications. His operations on the Adige in 1796 lose half their interest if the student of Napoleon does not keep constantly in his mind's eye the fortified and supplied depots of Peschiera—Brescia—Milan in the north, and the alternative ones of Cremona—Pizzighetone—Pavia in the south; or if he does not comprehend the significance of provisioning and garrisoning Mantua, Peschiera, Legnano and Pizzighetone, as a prelude to the campaign against the Archduke Charles in 1797.

Unusually secretive as to the motives that influenced him when conducting war on a great scale, our opinions

are often necessarily based upon the reflections that his operations induce. We consider ourselves more than fortunate, then, when we can cite the Emperor's written or expressed views upon any subject.

In the St. Helena Memoirs, when referring to the position of his army at Milan in 1800, with alternative lines of communication via the St. Gothard and Simplon behind it, he says: "In this position the French general could act according to his desire. In the campaign of 1806 he organized four different lines of communication, secured his front of strategic operations, and so held himself ready to change on the instant the direction of his whole army.

In 1807 we see him fortifying and provisioning Warsaw, Thorn and Danzig, thus encircling the theatre of operations with these depots or pivots of operation, which enabled him to operate in any direction with confidence and safety.

In September, 1808, Joseph proposed to collect all his forces and march on Madrid, utterly regardless of his communications with France or of any pivots of operation. The Emperor's comments on this extraordinary plan were very much to the point: "To change one's line of communications is the act of a genius, to lose it altogether is such a risky operation, that it renders the general, who perpetrates such an act, criminal. Those who venture to advise such a measure would be the first to lose their heads, as soon as events laid bare the madness of their operations. Even with an army composed entirely of men like those of my own Guards, and led by the most able general, by an Alexander or a Caesar, one could not answer for anything in the face of such stupid errors."

When we remember how, on Christmas Day, 1808, Sir John Moore's army stood at Sahagun, with nothing before it but a headlong retreat to the Atlantic coast hundreds of miles distant, and when we recall the losses and confusion of that retreat, we are reminded of Napoleon's words to Joseph: "There is a very great difference between operating with a fixed system and an organized centre, and

advancing at haphazard, abandoning one's communications without possessing any organized centre of operations." On* the one side in this campaign we see a British general—owing to a subordinate's failure to carry out his instructions—advancing hundreds of miles into the heart of Spain, without any adequately prepared lines of communication or organized centres of operation upon which he could fall back in case of failure, and on the other hand we see Napoleon standing at Madrid with one line of communication by Aranda and Burgos north of the Sierra de Guadarrama, and with an alternative line, which had already been prepared and opened, *via* Guadalaxara—Calatayud, south of the same range of mountains, "a position which was so well calculated and secured," says von Wartenburg, "that it forms one of the finest displays a soldier can contemplate."

And so in the Campaign of 1805, we see him encircling the theatre of war, from Wurzburg to Huningen, with depots of supplies and material.

Once the victory of Ulm has been gained, he fixes upon Augsburg as his centre of operations. There he collects his hospitals, supplies, accoutrements and ammunition and provides a well built bridgehead at Friedeberg on the right bank of the Lech. Writing to Petiet from Augsburg, October 24, he says: "I desire that you should have in Augsburg, a million rations of biscuit, ovens to bake eighty thousand rations a day, and flour in bulk to cook two million rations, three hundred thousand bushels oats and one hundred thousand pints of brandy." It is around Augsburg that he will now manœuvre freely in any direction, should the Russians attempt to oppose him.

With the uninterrupted advance of his army, Brunnau is the next place to catch his eye. It is a large place

* [The writer here appears to condemn Moore's strategy. If we follow carefully the plans made by Napoleon to meet it, we cannot but admire its boldness; in spite of the retreat to Corunna it cannot be considered a failure:—Ed.]

quite capable of defence, and all his stores are now ordered here from Augsburg. Brunnau now becomes the pivot, upon which he can fall back in case of failure, and find therein the resources to enable him to renew the conflict.

We are again fortunate in being able to quote the Emperor's own words. In 1809, when similarly placed as in the present instance, Davout was ordered to march to Passau which place was now to become the centre of the further operations against Vienna, and accordingly the Emperor issued minute instructions for its fortification, provisioning, and armament: "It is there," he wrote Davout, "in case of a retreat, that I intend to cross the Inn, and I intend to manœuvre constantly round Passau, in case of a retrograde movement of my army."

Fourthly, from himself he demanded an unremitting state of mental preparedness, anticipating daily and indeed sometimes hourly the possibilities of the situation, asking himself what shall I do if the enemy appears here or there or if he is not somewhere else? The mental solution of each succeeding problem is also promptly translated into action, and, whilst his army of one hundred or two hundred thousand men is being driven forward at the rate of fifteen miles a day, we see him constantly shuffling and inter-changing his corps and divisions to enable him to control promptly and with all his means each succeeding situation as it arises, or as he thinks it may arise.

We have already referred to the battle of Lutzen, where, according to many historians and military writers, the Emperor was completely taken by surprise. Tactically, Souham was caught napping, but strategically, the Emperor, far from being surprised was fully and completely prepared, both mentally and by the disposition of his forces, to deal on the instant with the changed situation.

And so, in the campaign we are studying, he starts from the line Hagenau—Spire—Mayence—Wurzburg, with a frontage of 150 miles. Then, gradually closing his army in on its left to increase its liberty of action and freedom to manœuvre, he drives it forward at the rate of fifteen miles

a day. While his army marches he brings to his task a mind which, by constant pre-occupation, is familiar beforehand with the aspects of the different conditions of any situation likely to occur; his views are, so to say, in a continual state of formation and development, ready for instantaneous application to any emergency immediately it arises. "It is not genius," said he, "which reveals to me suddenly what I should do in circumstances unexpected by others, it is thought and meditation."

He now anticipates an offensive by the enemy on the left bank of the Danube. He temporarily resorts to the war of armies. The First Army, consisting of the corps of Murat, Lannes, Davout, Soult and Ney, is under his personal command, Bernadotte commands the Second Army, which comprises the 1st Corps, the Bavarians, and the Corps of Marmont.

If the enemy advances from Donauworth, against the Second Army, Soult and Davout are to march to its support; if from Ulm, against the First Army, Soult will be called in; and lastly, if the centre is attacked, both wings will close up and envelop. But, as often happens in war, neither of these cases occurred, and on October 4, it was known for certain at the French headquarters that Mack's army was still on the right bank of the Danube, and principally in the direction of Ulm.

The passage of the Danube is now of primary importance, and here, as on the Po in 1796 and on the Danube in the following November, the Emperor balances between a passage at Donauworth and Neuberg, or at Neuberg and Ingoldstadt. He prefers the latter since it again conduces to liberty of action; he does not halt but continues his advance, keeping a perfectly open mind on the matter, and ready to take advantage of one or the other passage as opportunity offers.

Movement is the mainspring of Napoleonic war, as it was of Frederick's and Marlborough's war. The passage of the Danube, and the wheel to the right of his vast array under the most distressing weather conditions, will ever re-

main a masterpiece of ability to manœuvre, His German critics have found fault with him for demanding the impossible of his men. Basing their opinion upon the campaign of 1870, they claim that the demands of the commander-in-chief should not exceed the capacity of the troops to execute. Had Marshal Oyama been imbued with any such scruples, or had he been animated by any fear of forfeiting the confidence of his army, his orders of the 29th August for the Second Army and General Oku's orders of the 11th October, 1904, for the same army would not have aimed so high, since both cases we know that the execution fell short of the tasks demanded.

The problem that confronted Napoleon on the 6th October, 1805, was one of extreme difficulty. Mack's army was known to be in the space between the Lech and the Iller. Should the Austrian commander realize his danger in time and display any, even the meanest manœuvring ability, he could, with comparative ease, avoid the blow threatening him. He could no longer, it is true, hope to carry out his original idea of holding on until his Russian ally joined him, but he could, by a prompt abandonment of this idea, still save his army to fight another day. The road *via* Augsburg on Landshut was still open; he held the crossings over the Danube at Elchingen, Gunzburg, and Ulm; and, to the south, he could still fall back *via* Memingen and Biberach to a junction with the Austrian army in the Tyrol. Provided he could march, manœuvre and handle his army, the task before Napoleon was one well-nigh impossible of solution, if we assume that task to be the bringing of Mack's army to battle. It was like having to seize a burglar in a room in which all the side doors are open.

His "guiding idea" is the capture or the destruction of Mack's army, and the means he relies upon are :—

- (a). Rapidity.
- (b). Freedom to manœuvre his own army.
- (c). Restriction of the liberty of action of his opponent.
- (d). Ability to handle his army as required.

He rushes forward to Augsburg and the Lech; the occupation of this line reduces the number of operations the enemy can attempt. Ney makes a dash for the bridge at Gunzburg, seizes it, and the Austrians fall back. Ney moving up the left bank of the river opens up the passages for Murat; the bridge at Elchingen is captured, and Ney seesaws from one bank to the other. Soult has reached Landsberg, while Davout and Bernadotte, fifty miles away, are keeping the ring clear. "On this vast theatre of war, which changes at every instant," as Napoleon wrote Berthier, the French troops are now in position to act freely in any direction according to circumstances. Another bridge is ordered to be thrown opposite Albeck, "so that the corps which is in Albeck may be in communication and connected with the rest of the army, and that if the enemy should operate too hard, or find himself compelled to take refuge on the left bank during the night, you Murat, can during the same day fall upon him." Soult with 30,000 men has passed Mindelheim. Mack must now fight or surrender, for "On the 14th," writes Berthier to Davout, "the day of the battle, the enemy will be destroyed, for he is shut in on all sides."

Mack had served most of his time on the staff, his actual command of troops being limited to the Neapolitan campaign of 1798, where he had cut a sorry figure; but the blame was laid on his troops. He was concentrating on Ulm, when he learned that the French were on the Danube, fifty miles to the east of him. He ordered an advance on Augsburg, but, checked in that direction, he decided to strike northward. This plan was immediately abandoned, and then again taken up, and on the 13th Werneck's division marched towards Nordlingen, while the rest of his army did nothing. Mack now came to the conclusion that Napoleon was retreating, cancelled his orders once more, and again issued orders for a march to the east. The capitulation must have come as a happy release to such vacillation and inaptitude for command.

Napoleon won this campaign because he kept his "guiding idea" steadfastly in view; because he kept a perfectly open mind as to how he should act from day to day and hour to hour; and because his ability in handling his army enabled him to keep his forces in motion, and so to shuffle his corps daily as to control the changing situation and turn it, from time to time, to his own advantage.

Mack lost the campaign because he was too full of theory to leave any room for skill; because he lacked the resolution to formulate and persevere with any single plan; and because he lacked the ability, and the confidence that accompanies it, to handle his army.

Napoleon's marshals have often been adversely criticised. They had their faults and weaknesses, the greatest of which was that they, like others we could mention in more recent times, would not work with and take orders from each other. But they possessed one good quality, which more than compensated for all their shortcomings, namely, they could march, handle, and manœuvre their commands with a smoothness, precision and celerity unsurpassed by the generals of any army or of any age. This was their greatest contribution to Napoleonic warfare.

Berthier, the exception, was on the staff nearly all his service; his work was confined to the office desk; the practical handling of batteries, battalions, and squadrons, was a sealed book to him. The only time he was called upon to command and direct these implements of war in the field, he failed ignominiously.

Wellington's fame rests largely upon the confidence and skill with which he controlled and directed his army, upon the certainty with which he could always compel the co-operation of his cavalry, infantry and artillery, and upon the energy and resolution with which he employed all his means to attain the object he had in view. The practice he had, of handling troops in India, was of inestimable value to him, when he found himself selected for the command in Portugal. A conversation which he had with Croker, just before he left England, is recorded in the latter's papers.

Sitting silent, lost in reverie for a long time, he was asked by Croker the subject of his thoughts. "To say the truth," he replied, "I am thinking of the French I am going to fight. I have not seen them since the campaigns in Flanders when they were capital soldiers, and a dozen years of victory under Bonaparte must have made them better still. 'Tis enough to make one thoughtful. But though they may overwhelm me, I don't think they will out manœuvre me. First, because I am not afraid of them, as everyone else seems to be,.....I suspect all the continental armies are half-beaten before the battle begins. I at least will not be frightened beforehand." "From the first opening of his Vimiero campaign," says Mr Oman, "the troops that he led had the firmest confidence in him—they saw the skill with which he handled them, and criticism very soon died away."

It was with this same confidence, born of similar qualities in a chief of like calibre, that, more than ninety years later, an Imperial army of Britishers, Canadians, Australians, and New Zealanders, marched triumphantly from Cape Colony to Diamond Hill.

Crauford is our ideal, not the 'Light Division'. Crauford—the Stonewall Jackson of Wellington's army—who could handle his division, who could fight in retreat without those doubts and misgivings that paralyse the actions of less practical men of war, who could march forty-three miles without a halt, who could assemble his division and march in any direction in half an hour, who could attack when and where he liked in the shortest possible time and with all his means, and who could out-manœuvre the French whose mobility had already conquered half the European world.

It is constant practice with troops that gives the general confidence to march and manœuvre, and so impose his will on the operations. Baron Dalhousie, father of the Marquis of Dalhousie, was a general officer in Wellington's army. His son delighted to hear stories of his father's military career, and of one story related by a brother officer of the general's. he was particularly proud. At the second action in the Pyrenees, General Dalhousie was placed with his own divi-

sion, the 7th, on the left flank, with orders from the Duke of Wellington to hold his ground. While there and while the French were advancing on the centre, he saw that an immense advantage would be gained by wheeling up the troops under his command. He did so, taking the enemy in flank; and though the battle would in any case have been won, this movement put the finishing touch to the Duke's combinations and at once decided the day. The Duke was much pleased, for Sir Edward Pakenham rode up to the general and said, "I would rather be in your skin to day, than of any other man in the field. The Duke has just said of you, 'By G—, that man has more confidence in himself than any other general officer in the Army.'"

Stonewall Jackson possessed this confidence in marked degree, "At Malvern Hill," says General John Gordon, a veteran of the Civil War, "I learned the secret of Jackson's wonderful power and success as a soldier. It was due not only to his keen and quick perception of the situation in which he found himself at each moment in the rapidly changing scenes as the battle progressed or before it began, but notably to an implicit faith in his own judgment, risk his last man upon its correctness, and deliver the stunning blow, while others less gifted were hesitating and debating as to its wisdom and safety."

Jackson could handle his command, march, manœuvre, assume the offensive and hurl all his means—guns, battalions and squadrons—against the enemy's weak point. Mere frontal attacks, only to be seen in armies with no standard of practical generalship, had no place in his military vocabulary. His declaration that it is better to lose one hundred men in marching than a thousand in fighting is proof of the correctness of our opinion. Ewell once said that he never saw one of Jackson's staff approaching without "expecting an order to storm the north pole; "but if Jackson had determined to take the north pole he would never have assaulted it in front." He was sadly missed at Gettysburg and in the battles of the Wilderness.

A. W. ANDREW LT. COL.

114th Mahrattas.

On Field Service Office Equipment.

BY

CAPTAIN E. G. HART, S. & T. C.

There is a very general idea that on service office work and accounts may be neglected *ad lib*, and that all will be forgiven afterwards because one was on field service, and it is only in the painful aftermath of objections when one had hoped to be enjoying an "otium cum dignitate" that it comes to be realized with sorrow that this is not so. Accounts and office work in the field have, it is true, been reduced almost to the possible minimum, but for this very reason is all that remains far more important than the routine peace work, and neglect brings in its train a much heavier punishment in the hosts of insidious objections and questions which can neither be ignored nor answered satisfactorily. It is to be remembered that although office work and accounts in themselves, however well done they may be, can never increase the efficiency of an army, yet they possess considerable powers of deducting from it through the worry and irritation which they are apt to cause if carelessly performed.

There is an old, and to me annoying, saw about a workman and his tools which is often quoted whenever one wishes to bring about an improvement in equipment. Its complement often seems to be forgotten, that though a bad workman will not do good work either with good tools or bad, yet both he and the good workman will do far better work with good tools than with bad. On service we are already considerably handicapped in office work in a dozen ways which do not affect one in peace time. It usually has to be done when the staff is already tired with a long day's march or operations, sometimes in the open and at the best in a windy tent, possibly in darkness made visible by an indifferent camp lantern, and in rain. Add to all this the unpacking of the various papers and stationery required out of yakdans

in which everything has got hopelessly mixed up after several hours jogging about on muleback, and one has a fairly true picture of a typical service office scene. There are many things in it which it is impossible to ameliorate, but the equipment and preparation for it do not, and on these grounds I have ventured to write this paper.

The present service office equipment as I have met it in a number of instances consists of the ordinary service tents, chairs and tables, lamps and candlesticks, and yakdans filled with an assortment of stationery. Of the tents there is not much to be said: they can be improved for office work in the field by the addition of cloth pockets sewn on to the sides to hold papers, etc., in use. The chairs and tables are far from satisfactory. They are by no means rigid and both take time and a certain amount of skill to put together, and the separate parts are easily lost. There are now camp chairs which are lighter, cheaper, as comfortable, and capable of being opened and set up with a single movement of one hand, and similarly there are tables built in one piece with folding legs which can be very quickly set up, and are rigid when set up. With regard to tables, however, if my pattern of office box be introduced in which the lid forms the table, they might be abolished altogether. The spring candlesticks are practically useless for office work since the construction is such that there is no light near the foot of the candlestick, and at the distance of about two feet, where it first begins to get strong on the table level, it is too far off to be any real good. The ordinary service lantern is a poor one for office work and might well be replaced, I think, in spite of the extra cost, by a Lord's pattern, or by a modification of that excellent lamp.*

It is in the yakdans, however, that I consider there is most need for a change. In these will be found packed a miscellaneous collection of printed forms, paper and en-

* Any of the numerous electric lamps seem better, they give better light, cannot blow out or catch fire, are lighter in weight and the spare batteries take up no more space than the oil for other kinds.—*Ed.*]

velopes of sizes, and various small stationery stores. The papers and forms are usually loosely tied together with twine, ink powder and nibs are in paper packets and the rest of the contents are generally devoid of any packing whatever. The result of even a ten miles march on a mule can easily be imagined on such a yakdan: the papers and forms are dogs'eared and soiled, the ink powder has spread itself everywhere, there are tangles of twine and thread, and nibs have a way of dropping out of everything one lifts up. It is little wonder that a novice feels rather hopeless of ever being able to make anything of a job of office work under these circumstances when he realizes that this is the normal condition in which he must expect to find and keep his tools.

To replace these yakdans, or those not required for purely store purposes, I suggest the introduction of office boxes similar to the illustration shown. This was very clumsily made by a Persian carpenter and is by no means all that it might be, but even so was of the greatest convenience to me on the march in Persia, and others who have seen it have praised it. It weighed empty 48 lbs. and when full 90 lbs: both these weights would be reduced if properly made of good wood and if further boxes had been available for carrying the stores of foolscap, etc., which were put into the above. Legs were made to fit into iron supports seen on the side but were never used on the march as I found it quicker to put it on to boxes of stores as shown. The front leg was hinged at the ground and the front and shorter portion of it fitted into a slot cut in the lid to support it. Inside were twelve foolscap sized partitions and three for envelopes: in two of the larger partitions were fitted drawers for small stores, pens, pencils, etc. The size over all was 33" x 19" x 11," and it might perhaps be more conveniently made with the foolscap partitions going breadthways instead of lengthways and so reducing the length by eight inches and increasing the breadth by four, i.e. a box of 25" x 19" x 15". Such a box can be got into action, with all one's papers ready

rasad R

q Ahme

Sharma

eneral

AVSM

eneral S

SHED C

to hand in front of one, within a few minutes of unloading, and packing up again is an equally speedy affair, and I would strongly advise the experiment of one being made and tried on manœuvres by those who are at all interested in the subject: they will never again rest satisfied with the existing system of yakdans and tables.

We have as yet, unfortunately, no definite office system in the service, and the result is that every office evolves its own. Consequently such things as files are not provided in the stores supplied, and, unless some arrangements are thought out beforehand and arrangements made, one's papers will have a very evil time of it. My own experience leads me to advise the ordinary foolscap size millboards with central flaps and tapes together with brown paper folders, though a really tough Manilla paper would be far better. If gummed tabs to stick on the sides both of the millboards and the folders be provided it will greatly facilitate finding the papers required without having to remove them all from the box. These gummed tabs are also useful for sticking on to packets of printed forms for the same purpose. A letter diary is another article which is not always provided and should be seen to. Besides these the following articles which are nowadays found in most offices have not been included in the equipments which I have known although I consider that they should be.

Red and blue pencils	...	Paper clips
Copying ink pencils	...	Eyelet punch
Gum or Gloy	...	Tags
Sealing wax	...	Good carbon paper
Twine	...	
Pins	...	
Prickers	...	

Copying ink pencils are especially necessary on service as so much pencil work is done and since these are indelible. I think the fourpenny quality is more than worth the bigger price in actual economy and would suggest a small experiment being carried out to ascertain whether this is

not the case: they are certainly far nicer to use on account of their smoothness and hardness, requiring less frequent sharpening. Gum or gloy should be provided in patent travelling bottles of a safe description or tins: a broken bottle of adhesive is a most unpleasant thing in a box containing the miscellany of an office yakdan. Twine should be sent in tin boxes of suitable shape or else in cloth bags: I have found the latter answer well for a short time. Paper clips are more appreciated on service where the wind is always with one, than anywhere else, and they should be taken in their dozens. The ordinary penny variety is the best, or nearly so, since a new kind with folding back handles which cause no projections seems much better whilst the gilt hand with a flowing lace cuff type is the worst and most expensive. An eyelet punch is a very great convenience, and I recommend the office peons being set to work to punch all the forms and stationery in the top left hand corners at the earliest opportunity. It is a pity that this cannot be done at the Government Stationery offices, as it enables papers to be fastened together so easily with tags, and it is far better than the small hole made by a pricker or by the brass end of the tag itself which, owing to friction, does not allow the tag or thread to slip easily as the sheets are turned over. Good carbon paper is an absolute necessity, and as there are some execrable qualities, it should be seen that a good kind is supplied: Zanetic is excellent but expensive.

A good deal of preparation can also be made in the way of packing the stationery better by providing small tins for nibs and ink powder, etc. All forms, too, might be provided with strong cloth or untearable paper envelopes, and these should very clearly be marked with their numbers and names, preferably on the gummed tabs already mentioned, which should be so arranged as to be at different places along the edges of the different forms so that one is not obscured by the next. Similar cases should be provided for envelopes and all stationery to save it from being soiled and dogs' eared.

I
A
ENCE

asad R

Ahme

Sharma

General

AVSM

General S

MED C

The yakdans themselves can be much improved by the insertion of partitions, but it should be seen that these are really strong and well screwed in as the jolting about is very apt to knock weak ones to pieces. Pockets for pens and small stores may be tacked on to the lids so render such things more immediately accessible. The contents of each yakdan should also be typed out and pasted into the lid, and another useful list to have in the same place is one of F. S. forms. A very useful thing on service, I have found, is to have thin boards—the three ply woods like Venesta are excellent for the purpose—just the size of quarter sheets, and eighth sheets of foolscap on which a quantity of pieces of paper of those sizes are fastened by means of a paper clip: if pieces of carbon paper are kept with these they do splendidly for memos and notes, carbon copies being made when desired. In fact they replace the very popular blocks in such common use nowadays.

For those offices which expect to have need of a duplicator those of the “putty” type seem to do very well up to some thirty copies if the right ink be found and are not too heavy for a light equipment. There is also an excellent carbon paper supplied by the C. B. D. Company which gives this number of copies with a typewriter. With regard to typewriters, those generally in use are, of course, too heavy and unwieldy to take on service but there are now several so light and handy and specially designed for travelling that they may well be utilized on service.

In addition to these material preparations much may be done to ease the initial strain by drafting out office orders regarding filing, registering, and any peculiarities which the head of the office likes followed. There is very little time to explain all these things at the commencement of a campaign, and anyhow they are sure to be forgotten in part. If written down and copies are issued to all the new staff there should be no difficulty in having the office running smoothly in all those minor details which save worry and irritation. In making out these orders it is best to run through slowly

I
A

NCE

asad R

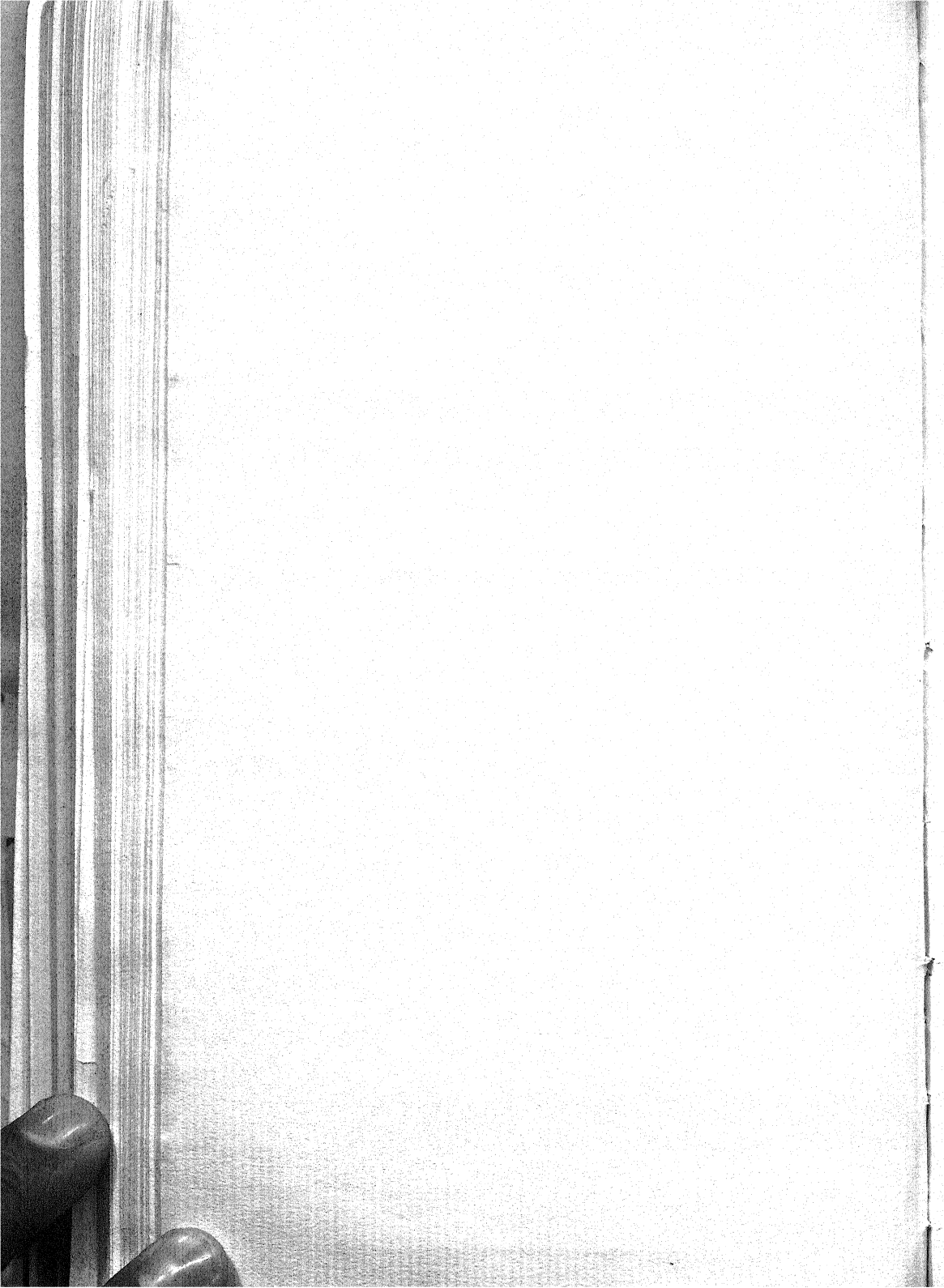
Ahme

Sharma

neral

AVSM

neral S



in imagination the events of the first week or so of a campaign as regards the office work, not leaving out of consideration delays and even losses of the yakdans and other kit. By doing this one will make arrangements for the division of the office into sections, the equipment will be apportioned to those sections and the boxes and furniture will be clearly marked on the outside so as to distinguish them as belonging to the particular office and the special sections thereof. Eventually, when one does go on service, it may be found that one's office will actually be a help to one instead of a hindrance and worry as it too often is at present.

History of the Royal Indian Marine.

N. B. The fourth article on the history of the Royal Indian Marine was received too late for publication. It will appear in the next issue.

asad R

Ahme

Sharma

neral

AVSM

neral

The Role of Russia in a war between the Triple Alliance and the Triple Entente.

BY MAJOR OBERLINDOBER.

Translation from the German of an article which appeared in the *Militaer Wochenblatt* dated Berlin, 24th January 1914.

(Communicated by the General Staff, India.)

"In an essay entitled, "L'apport de la Russie en cas de guerre" which appeared in the Sunday number of the "Echo de Paris." General Cherfils expresses his views as to how the Russian Army could best assist the allied French Army in the event of war. The author bases his remarks upon an article which appeared in the "Correspondent" of the 25th December 1912 under the title:—

"Si la guerre éclatait demain? Il y a la Russie!"

The general trend of his essay is as follows:—

In time of peace France places her vast financial resources at Russia's disposal, and in return for this she is entitled to expect almost 'unlimited support from the Russian military forces in time of war. At the present moment especially, since Russia desires to raise a new loan of $2\frac{1}{2}$ milliards of francs, it is the duty of the French General Staff to ensure that France receives an equivalent in the shape of military support in return for the financial advantages which Russia obtains through this loan. Above all things it is necessary to endeavour to bring about a considerable acceleration of the mobilization and concentration of the Russian forces on the Western frontier of the empire, which at present occupy a very long period, in consequence of the vast extent of the country and of the insufficient development of the system of railways, telegraphs, and telephones. In other words, pressure should be brought to bear upon Russia to expend a considerable portion of the sums lent to

her in the improvement of communications within the area in question. As this is however a matter of years, it is now of great importance carefully to consider in what manner Russian arms can best be employed to assist France in the meanwhile.

We know that a war is decided at one point only, and by victory over the strongest opponent. This is clearly demonstrated by the campaign of 1866.

Obviously then the all important objective for the Triple-Entente will be the defeat of Germany. Therefore all the actions of the allies will be directed towards the accomplishment of this object.

The Russian area of concentration is formed by the province of Poland, which is surrounded by Prussian and Austrian territory for a distance of 700 kilometres. It is perfectly obvious (here follows a note of interrogation inserted by the German author in brackets) that it is the intention of the German military authorities to fall suddenly upon the Russian forces already concentrated in Poland during peace time and to destroy them before the remaining troops of the Russian colossus are ready for the fray. For this purpose Germany has six army corps available in its eastern provinces, besides four Austrian ones in Galicia. The complete development of the German and Austrian railway system undoubtedly makes possible the rapid concentration of these ten corps for the purposes of invading Polish territory.

To counteract this plan it is the task of Russian Army Headquarters to endeavour to anticipate this strategical inroad by means of an "attaque brusquée" with the forces immediately available. Of course Russia could only undertake such an invasion of Prussian territory with the immediately available peace establishment of troops in Poland, that is to say without first mobilizing and concentrating these troops according to plan. Therefore in order to make this plan feasible the frontier troops would have to be kept on a higher establishment (on a war footing) in time of peace, so that they could immediately take the field, without await-

ing the arrival of their reservists. These latter are then to be assembled in at the appointed times at their depots, and serve solely for the completion of corps to strength.

Among the frontier corps which would come in question for such an enterprise General Cherfils includes the following:—

Five corps of the army of Warsaw, (the 15th, 19th and 23rd Warsaw, 6th Bialystok, and 14th Lublin); four corps of the army of Vilna (the 3rd Vilna, 2nd Grodno, 4th Minsk and 20th Riga); three or four corps of the army of St. Petersburg (The 1st Guard Corps, the 18th St Petersburg and perhaps the 22nd Helsingfors, and finally two corps of the army of Kieff (the 11th Kovno and the 12th Vinniza).

All other army corps to be mobilized according to plan, and concentrated in the appointed areas.

The plan of operations yet to be arranged in detail, in cooperation with the Russian General Staff, should not contemplate an attack upon the four army corps stationed in the Baltic provinces of the German Empire only, (viz the 1st, 2nd, 17th and 20th) but should also be directed against the corps stationed in the provinces of Posen and Silesia. (The 5th and 6th).

Since all the German naval forces would be occupied in meeting the British naval attack, it would probably be advisable for the Russian navy to operate against the Prussian Baltic coast especially against Danzig.

Russia would be ill advised at the same time to make an offensive movement against Austria. Besides the remaining five corps of Kieff (8th, 9th, 10th, 13th and 21st) are quite sufficient to hold the Austrian armies in check, or to meet their attack in a flank position facing the Galician frontier.

The above then is the most important measure to be taken by Russia in order to support France; a second effective measure would be the development of the system of railways, telegraphs and telephones in the frontier area to the west of a line running approximately through Riga and

Kieff; and a third would be the improvement of communications in the interior of the country, *i.e.* to the east of the above line.

At any rate an attack in the nature of a sudden inroad executed by sixteen Russian army corps upon the ten army corps of the allied Germans and Austrians within this theatre of war would in the opinion of General Cherfils be an event of very far reaching importance, the diplomatic and political consequences of which might be of decisive magnitude.

In order to bring about the realization of a measure so exceedingly favourable to France as the above, the author considers that it would be advisable to incur yet much greater expenditure, with a view to raising Russia's finances. Russia too could rest assured that if she agreed so to co-operate with France she would only be doing herself good.

But we Germans will forward this French advice on to the address of Russia without comment, comforting ourselves with the conviction that we may consider ourselves the strongest after all, since we have no need to be on the look out for foreign assistance.

Quarterly Summary of Military News and Items of Interest.

ARMY HEADQUARTERS.—General Staff Branch.

Appointments and Promotions.

Colonel James G. Turner, C. B., and Colonel Charles I. Fry and Colonel David G. L. Shaw have been promoted Major Generals.

The King has approved of the retirement of General Sir O'Moore Crèagh, V.O., G.C.B., G.C.S.I.

Major General A. Phayre C.B., Indian Army, has been appointed a Divisional Commander, vice Lieutenant General Sir J. B. Woon, K.C.B., Indian Army.

Major General Sir Alliston Champion Toker, K.C.B., Indian Army, unemployed Supernumerary List, to be Colonel of the 18th Infantry.

Lieutenant General Michael Weekes Willoughby, C.S.I., Indian Army, unemployed Supernumerary List, to be Colonel of the 104th Wellesleys Rifles.

Major Herbert C. Holman, D. S. O., 16th Cavalry, Indian Army, a General Staff Officer, 2nd grade in India, to be Brevet Lieutenant Colonel. Dated 20th June 1914.

Major General Henry B. B. Watkis, C. B. Indian Army, to be Lieutenant General, vice Sir J. E. Nixon, K. C. B. promoted. Dated 4th May 1914.

Colonel (temporary Brigadier General) Donald C. I. Macintyre, C. B. Indian Army, a Brigade Commander in India, to be Major General, vice H. B. B. Watkis, C.B., dated May 1914.

Major General Sir Arthur Robert Ford Dorward, K. C. B., D. S. O., retired, to be Colonel of the 2nd Queen Victoria's Own Sappers and Miners.

Major Oswald A. C. Fitzgerald, 18th King George's Own Lancers, Indian Army, to be Brevet Lieutenant Colonel, dated 19th August 1914.

The following new rates of Indian pay of rank for officers of the British Service in military employ, including officers of the Indian Ordnance Department and Military Works Services, have been sanctioned. The rates have effect from 1st January 1914 and carry exchange compensation.

	Royal Horse Artillery	British Cavalry	Royal Field and Royal Garrison Artillery.	Royal Engineers.	Infantry
	Rs. per ensem	Rs. per ensem	Rs. per ensem	Rs. per ensem	Rs. per ensem
2nd Lieutenant...	300	300	250	250	250
Lieutenant on promotion ...	350	350	300	300	330
Lieutenant after 6 years service...	375	375	325	325	325
Captain on pro- motion ...	485	485	435	435	435
Captain on 3 years in rank and with 13 years service.	530	530	480	480	480

DETAILS REGARDING THE PAY OF MAJORS ARE
TO BE NOTIFIED LATER.

Revised instructions have been issued for the preparation, submission and completion of confidential reports.

Provision is made for communication to the officer reported on of the original report and the opinion of senior authorities.

The Bombay, Baroda and Central India, South Indian, Burma and East Indian Railway have agreed to extend to Captains and Subalterns of the Indian Medical Service serving with units of the Indian Army, the concession of travel-

ling on Form E in a first class carriage in payment of second class fare on all occasions when they travel at their own expense on these lines.

The Staff College, Quetta, has been closed till further orders.

The Refresher Course for senior officers to be held in September was abandoned.

The following ordinances have been made and promulgated by the Governor General of India.

Ordinance No. I of 1914. An Ordinance for securing the control of the Press during War.

Ordinance No. II of 1914. An Ordinance to provide for the impressment of vessels for the service of His Majesty.

Ordinance No. III of 1914. An Ordinance to provide for the exercise of more effective control over foreigners in British India.

Ordinance No. IV of 1914. An Ordinance to render members of the Indian Volunteer force on actual military service subject to military law, as officers or soldiers.

Ordinance No. V of 1914. An Ordinance to provide for the control of persons entering British India, whether by sea or land, in order to protect the State from danger of anything prejudicial to its safety, interests or tranquility.

NORTH WEST FRONTIER AND AFGHANISTAN.

The strength of the Gilgit Scouts on the 30th June was 530 of all ranks. The raising of remaining companies is being proceeded with.

The people of Afghanistan with the exception of the educated classes at Kabul, appear to take very little interest in the European War.

Muhamad Nadir Khan, who commanded the Afghan troops in Khost against the Moguls in 1912, has been appointed Commander-in-Chief of the Afghan Army vice Amir Mohamad Khan retired on account of ill health. He is said to be keen on improving the drill and discipline of the Army.

The majority of the Mahsuds seem to think that their best policy is to try and earn forgiveness for the Tank Murders by good behaviour. Nevertheless raids have been fairly frequent especially during August but the results have been unimportant.

Sanction has been accorded to the proposals of the Government of India that the Idak-Thal line should be held with permanent posts and that the North Waziristan Militia should be increased by 2 British officers, 9 Indian Officers, 396 Infantry and 59 Mounted men.

Relations between the Nawab of Dir and the Mehtar of Chitral are strained at present. Raids have occurred into Chitral territory and travellers have been molested on the Chitral road within Dir limits. The Nawab has apologized for the molestation of travellers and promised that it shall be stopped.

The tribesmen on the North West Frontier take considerable interest in the European War, but are very ignorant of the nations engaged in the war and of its size. Many absurd stories, mostly originating in Peshawar, circulate in tribal territory. The Tribes of the Khaibar Agency and the Khaibar Rifles have offered contingents for active service in connection with the war. The leading men of Swat have offered their services in any capacity to serve the Empire.

In future frontier fighting it is thought that the following changes in tactics of the tribesmen are probable :—

1. Swords are everywhere going out of favour and rushes by swordsmen will be less frequent and will only be made under the influence of fanaticism.
2. More sniping may be expected by day and night, and at longer ranges by day.
3. Explosive bullets will be used for range-finding and man-killing purposes by the Orakzais, Afridis, Wazirs and Mahsuds. The use of such bullets is reported from Kalat in Baluchistan, but they are not known in the country north of the Malakand and in the Zhob and Quetta-Pishin districts.

4. Escalade will probably be tried and explosives and bombs used in the attack of posts.
5. Whistles will be used to cause confusion and a cessation of fire among our troops at critical stages of a fight.

CHINA.

A central war ministry has been formed at Peking at the head of which is the War Minister.

As regards the Provinces, the following system has been introduced :—

- (a) The Regulars are controlled by the Military Governor who is directly under the Central War ministry.
- (b) The Provincial troops and the Armed Police are under the Civil Governor of the Province, who submits for the approval of the War Ministry all matters relating to reorganization, training, disbandment and appointment of officers, and all question regarding expenditure. The frontier districts of Jehol, Chahar and Suizaen have been placed in charge of special Military Governors, who have control of the regular and provincial forces, subject to the supervision of the War Ministry as regards administration, and of the Headquarter General Staff, as regards general staff duties.

A proposal to divide the country into Military districts has been under consideration but is rather hanging fire at present.

About 300 men of the 1st Division mutinied at Kalgan at the end of June. The mutiny was speedily quelled.

The German Association in Shanghai lately memorialised the German Government regarding the future prospects of German influence and trade in China.

The memorial points out that the German influence and trade are on the wane, largely owing to the inefficiency of their diplomatic and consular services, and deplors the ascendancy of the English language as the language of commerce in China.

In order to restore German prestige, the Association proposed to introduce an ambitious educational scheme, in which the services of missionaries would be largely utilised. In fact they suggest that the missions should make their religious objects subordinate to political and commercial considerations.

Other proposals include the despatch of 100 students annually for a three years' course of training in Germany, a carefully organized press campaign, and the establishment of museums and industrial *expositions*.

The rules and regulations of the Council of State a body designed as an Advisory Council to stand in relation to the Legislative Council as a sort of Upper House or Senate, are as follows :—

Its members will be nominated by the President, and their duties will be to attend to the enquiries of the President and discuss administrative affairs.

The Chairman and Vice-Chairman are to be especially appointed by the President, and the members, numbering from 50 to 70, are also to be appointed by the President from men who possess one of the following qualifications :—

Those who have rendered meritorious service to the nation; those who possess technical knowledge in law or politics; those who have administrative experience; scholars of profound knowledge who are authors of works which are of public utility, and those rich in experience and knowledge of industry."

The Civil Governors appointed to Provinces, with supervisory powers over finance and judicial matters, have large powers and numerous subordinates. New finance departments have been created under the direct control of Peking, with the object of securing a steady flow of revenue to the Central Treasury.

Each Province will be divided into "tao" or circuits and "hsien" or districts, to simplify administration; the

officers in charge of each being under the Governor of the Province. The control of all these officials will be with the President.

Already many old servants of the Manchus are finding their way back into official positions.

A new wireless station has been opened in Eastern Canton. It is a Telefunken installation and is said to be able to communicate with Peking by night.

The wireless station at Wusung is reported to have a range of 900 miles, and it is expected that this will extend to 2,000 miles at night.

These are the following stations at Shanghai:—

A station in the French settlement.

The China Telegraph company's station.

A private station owned by an Englishman.

A small experimental station.

A Japanese Government station is also under construction.

SIAM.

An increase of £57,000 has been made in the budget for the provision of adequate and up to date armament.

The cost of this re-armament is to be spread over a number of years. There is an increase of about £30,000 to provide for the cost of a river gun boat which has been ordered from Europe.

PERSIA AND THE GULF.

Lighthouses have been recently established at Taub Island and Little Quoin, buoys have been placed at Bahrain, Bushire, Bandar Abbas and Jask and beacons at Kubbar Island, Ras-al-Marg, Ras-al-Arz, Jask, Henjam Basidu and Chahbar.

The Revenue returns of Persia for March 1913 to March 1914 showed an increase of over £400,000 or about 40 per cent. This was exclusive of the Customs returns.

A terrific explosion took place in the arsenal at Shiraz at the beginning of August. As a result many of the adjacent buildings were damaged or destroyed, practically all the explosives, rifle cartridges and artillery ammunition were consumed and 7 people were killed and about 50 injured.

27th September 1914.

C. L. MACMULLEN.

Correspondence.

The following extracts from a letter to the Secretary is published as being of interest to members of the Institution.

The Royal Colonial Institute, which is now a large and well-known society numbering some 8000 fellows and members, and having a commodious club house and library in Northumberland Avenue, London, was founded in 1868 with the idea of counteracting the anti-imperial tendencies of that time. Its present object may be summed up as that of doing whatever can be done by an unofficial and non-party organization to promote the closer and permanent unity of the Empire. In accordance with that aim the Institute is always concerned to uphold the prestige of the British Flag and the interests of British subjects throughout the world.

It has special committees for watching the interests of the Empire in respect of various matters and for bringing them to the attention of Government when occasion requires. These committees gave evidence before the Dominions Royal Commission in 1912 and undertook some special work at the request of that body. The Institute publishes a monthly review and maintains a masonic lodge of its own.

The Institute has local centres throughout the Empire, the Honorary Corresponding Secretaries for India being E. E. English, Esq., Bombay; V. Gabriel, Esq., C.V.O., C.S.I., I.C.S., Simla; H. N. Hutchinson, Esq., I.C.S., Lahore; G. H. Ormerod, Esq., Assam; J. R. Pearson, Esq., C.I.E., I.C.S., Meerut; from any of whom further particulars can be obtained.

An annual gold medal for research accompanied by a grant of one hundred guineas together with Honorary Fellowship of the Institute for life is given for the purpose of encouraging scientific study of the problems of Imperial unity. The subject for the present year is "The applicability of the dictum that 'A Democracy cannot manage an Empire' (Thucydides, Bk. III Ch. 37 Jowett's translation) to

the present conditions and future problems of the British Empire, particularly the question of the future of India." The work of candidates will be judged by the scientific value of the method of enquiry adopted rather than by the political tendency of the conclusions reached; and account will also be taken of the potential importance of any accompanying appendices of information to future and independent students of the same subject. The monographs must be received at the Institute not later than April 19, 1915.

The Institute also offer one prize of £20 to undergraduate members of any university in the British Empire of not more than three years standing and one of £20 and one of £10 to pupils of any school or college in the British Empire who do not exceed the age of 19, for an essay on the following subject:—

"In what sense can an Empire prove itself to be great." The competition is open to both sexes, and papers must be received at the Institute by 20th October 1914.

A Trip Round the World.

BY CAPTAIN M. CROFTON, R. H. A.

Letter 1. Ceylon.

Preliminary arrangements.—I wrote to Thomas Cook & Son, Bombay, early in December 1913 telling him that I wished to go home round the world. I gave him an approximate list of places I should like to see and also told him when I could start. From this he made me out the itinerary on which I am now working, (copy attached.)

Cost of Ticket.—The cost of the ticket from Bombay back to Bombay is Rs. 2,610 *i. e.* £173-6-8, but I understand that since I took mine the price has been raised by Rs. 91-4-0 *i. e.* £ 6-1-8.

Money for trip.—I started from Bombay with a Cook's letter of credit for £236. I further arranged to draw an additional £50 at Yokohama and another £80 at San Francisco should I run out of money.

Voyage to Colombo.—My wife and I left Bombay by the P. & O. China mail boat Assaye on Wednesday, April 8th, 1914. The voyage to Colombo down the coast was most pleasant and uneventful; the sea was like glass and the temperature ideal. We disembarked at Colombo on the morning of Saturday, April 11th.

Baggage.—For this whole trip we have cut our luggage down to the lowest possible amount. Everybody has been very strong in advising us to do so, both on the grounds of worry and expense. The actual amount that we have taken is:—

1 *Small suit case*, with requirements for one night for my wife and self.

1 *Bedding Valise*, with rugs, coats, dressing gowns and pillows.

2 *Cabin trunks.*—(Compressed cane) with my wife's clothes and hats.

1 *Cabin trunk.*—(Compressed cane) with my kit.

1 *Tin box*, with joint kit that we may need.

2 *Deck Chairs.*

the total weight is under 500 lbs. so that we have nothing to fear on the ground of excess luggage.

Colombo was hot and muggy and we stayed there as short a time as we could. It is a pretty place, with broad clean streets and solid looking houses—not a bit like India. The hotels are excellent, but ruinously expensive, as they make their living out of tourists, for whom they have a completely different tariff to that charged to planters and residents of the island.

Kandy was our next objective. It is about 4 hours by train, the first part of the journey being over deadflat country, intersected by rivers and very plentifully cultivated. Where there are not paddy fields there are thick woods with grassy banks so like Devonshire that, if it were not for the

rasad Ra

q Ahme

Sharma

General F

AVSM.

General S

cocoanut palms, one would expect to see primroses and blue bells growing.

Soon, however, we began to go up into the mountains, and here the railway and the scenery became remarkably like that between Kalka and Simla on a small scale—Kandy being 1700 ft. above the sea.

At our destination we were met by our host who had motored in 7 miles to meet us through a typically tropical thunderstorm.

A Tea and Rubber Estate is a most interesting and fascinating study and life begins very early (5-30 a. m.) The whole of the next morning we spent learning how rubber is grown and made into the finished article; after this we were shown tea in every stage from the bush to the teapot. The rubber tree to look at, is very like an ash, while the tea plant might easily be mistaken for a Portuguese laurel.

The history of the Rubber Boom, during which so many fortunes were made and of the subsequent deterioration of rubber shares is a very interesting one—particularly when one knows some of the inside workings.

Briefly it is this:—The manufacturers in England suddenly discovered that they had an insufficient stock of rubber in hand to meet the demand; they therefore bought up all the rubber* that was to be had at any price—giving as much as 12s. 6d. per lb. for it. Lots of planters lost their heads and thought that was going to be the permanent price of rubber; they consequently expended large sums on machinery, labour and other details, which were really not necessary, now the market price of rubber has gone down to 2s. 6d. per lb. and these planters find that their cost of production has gone up so high that they can barely make a working profit. There is however no doubt that, in a few years time when things have straightened themselves out again, rubber will be a good sound paying investment and neither the fortune making gamble nor the disheartening speculation that some have found it up to date.

Kandy.—The ancient capital of Ceylon, is a wonderfully pretty place, now principally noted for the famous "Temple

of the Tooth," wherein is kept one of the most sacred relics of Buddhism—Buddha's tooth. The temple itself is an unimposing building close to the lake and just below Government House; the tooth can only be seen on high days when it is carried in procession. The lake is quite beautiful—in the middle is a small island, on which the Kandian Kings used to maroon their unfaithful wives. The views from the numerous drives about the hills by which the lake is surrounded are very fine indeed.

The last native rising.—Another day we motored to Anuradhapura (pronounced Anaratapura) a distance of 100 miles. The first 30 miles was through the hills, then we came down 1600 ft. by the Ballacadoa Pass to Matale. It was close to this place, at Wariapola, that the Cingalese made their last stand in the rebellion of 1848, and were routed by Capt. Lillie with the Ceylon Rifles. These were a fine fighting force of Malays, and great sorrow was felt when they were disbanded.

Anuradhapura was the capital of Ceylon from B. C. 437 to A. D. 726. The ruins are contained now in a perimeter of about 6 miles, and are well worth going to see. The place can be reached by train from Colombo and there is a comfortable Hotel. The most interesting things in my opinion are the fine old Buddha and the sacred Moonstone—the latter a solid block of stone 6 feet in diameter, with carved figures of animals and ducks on it as clear as if they had been done yesterday instead of 1,200 years ago.

The roads in Ceylon are all excellent; in the hills the curves and the gradients are very carefully engineered and everywhere the surface is splendid and kept in very good repair. For the last 40 miles before we got to Anuradhapura we were going through practically virgin forest, with only occasional clearings for paddy fields or for one of the fine tanks built for irrigation purposes by the old Kandian Kings. This jungle lasted for another 63 miles after we turned east to our destination for the night.

Trincomalee was until quite recently the headquarters of the East Indian Squadron. It is, I think, the most fascinat-

ing place I have ever been to. Perhaps, in my wanderings now before me, I may see some place I like better; I hope so, but I doubt it.

It is one of the finest natural harbours in the world and the bird's eye view of it is remarkably like that of Queenstown, Co. Cork. There are fine naval quarters, dock-yards, &c., and what the naval people concerned must have said when they received orders to vacate it, I shudder to think. There is excellent boating, fishing and bathing. The climate is ideal; it is 60 miles from the nearest railway and the shooting all round is without comparison anywhere. The only crab to it that I know is that there is no ice! There is an old fort, Fort Frederick, the date on whose gate is 1676. It has passed through many vicissitudes, being held in turned by Cingalese, Tamils, Dutch and ourselves, now it is empty except that the excellent quarters are occupied by P. W. D. officials.

Shooting in Ceylon.—The road back to Kandy (113 miles) led for the first 70 miles through jungle again. It is an extraordinarily pretty road, with broad grass rides on either side, very like the roads through Swinley forest or Clevedon woods. Some 14 miles out of Trinco is Tamblagam Tank where, one gun shot 127 couple of snipe in a day, quite recently; some few miles further on one comes to Alut Oya the best centre for big game, where elephant, buffalo, bear, panther, sambhur and various deer are plentiful. Within 20 miles of Trinco one comes to Kantalai Lake, built by the old Kandian Kings for irrigation purposes; it is over 1000 acres in extent and the bund is 3 miles long, with a Rest House built on it. The wild fowl on it are practically without number. A license to shoot has to be obtained, but except for elephant the price is purely nominal.

The Rest House system is an excellent one, being an improved edition of the Indian Dak Bungalow. Everything is provided, including sheets, servants, knives, etc.—the charges are moderate and things are clean. We stayed the

night at the one at Trinco where the keeper, one Tambi is a famous character, having been there since 1864.

Climate.—Mosquitoes are bad in Ceylon and in the plains it is hot and damp, but as soon as you get up into the hills it is a perfectly charming climate.

Conclusion.—I much regret that we were unable to get up to Newara Eliya (pronounced Newrailya) or to Galle, an old Dutch settlement in the South. The former place is the Sanatorium of Ceylon and I believe one of the most charming hill stations in the world. Hatton, on the way to Newara Eliya, is also well worth a visit in order to see and possibly climb, Adam's Peak.

From my short visit to the Island I can imagine no more attractive place to spend one's leave in—every taste is catered for, shooting, cricket, golf, tennis, walking, fishing, boating, racing and down on the estates in the plains, there is hunting with bobbery packs. The climate is excellent and the hospitality one receives absolutely without equal.

Owing to the kindness of our hosts our expenses in Ceylon were practically nil. I drew £10 from my letter of credit on arrival and had £4 still left on April 16th when we very regretfully bade good-bye to Ceylon.

DESPATCHED FROM PENANG.

21st April 1914.

ITINERARY.

Leave	Bombay	P. & O. Steamer "Assaye"	...	April 8.
Arrive	Colombo	...	...	April 11.
(5 days tour in Ceylon as per our Ceylon Handbook.)				
Leave	Colombo	P. & O. Intermediate Steamer "Novara"	..	16.
Arrive	Singapore	...	...	" 24.
(Visit Java)				
Leave	Singapore	P. & O. China Mail Steamer. "India"	May	2.
Arrive	Hongkong	...	...	" 8.
(2½ days in Hongkong visit Macao & Canton)				
Leave	Hongkong	(China Navigation Steamer)	...	May 10.

Arrive	Shanghai	5-6 days later			
Leave	Shanghai	rail 11-00 P.M., (Sleeping Car)	...	"	17.
Arrive	Nanking	(Bridge House Hotel)	...	"	18.
		(Visit Battlefields and Ming Tombs)	...	May 18-19.	
Leave	Nanking-Indo	China Steamer	...	May 20.	
Arrive	Hankow	...	...	"	22.
Leave	Hankow	10-00 P.M. Weekly Train de luxe...	...	"	22.
Arrive	Pekin	8-00 A.M.	...	"	24.
Leave	Peking	(By rail) 8-30 A.M.	...	"	26.
Arrive	Tientsin	11-55 noon	...	"	26.
		(One day in Tientsin)			
Leave	Tientsin	11-15 noon	...	"	27.
Arrive	Shanhaikuan	6-20 P.M.	...	"	27.
		(Visit Great Wall of China)			
Leave	Shanhaikuan	7-35 A.M.	...	"	29.
Arrive	Mukden	6-00 P.M.	...	"	29.
		(Visit Battlefields)			
Leave	Mukden (Fengtien)	8-50 P.M.	...	"	31.
Arrive	Dairen	7-55 A.M.	...	June 1.	
		(Visit Port Arthur).			
Leave	Dairen	O. S. K. Steamer	...	"	4.
Arrive	Moji	...	...	"	7.
Leave	Yokohama	S. S. "Manchuria"	...	"	18.
		Call at Honolulu about	...	"	28.
Arrive	San Francisco	...	...	July 4.	
		(Rail across America via Vancouver, Montreal, Niagara Falls and Chicago to New York).			
Arriving	New York	about	...	July 15.	
		(3 days in New York).			
Leave	New York	by Cunard Liner.			
Arriving	England	6 days later.			

Letter II. Malaya.

The Voyage.—We left Colombo in the P. & O. Intermediate S. S. "Novara" on April 16th. She was straight from Home and like all Intermediates was essentially a Cargo boat—passengers being a secondary consideration and the fares considerably less than they are by mail. On a first class return ticket from Singapore to London you save some £30 in

£100. At the same time we found the Novara very comfortable and except that time is no object and that you cannot tell within 24 hours when you will reach or leave a place, I see no difference between a mail boat and an intermediate. On the way from Colombo to Singapore we called at Pinang and Port Swettenham, both in Malaya.

Between Colombo and Pinang the voyage was quite uneventful. We had a perfectly calm sea quite cool weather with frequent rain and thunderstorms. One morning we saw, about 3 miles away, a very perfect example of a waterspout—even at that distance the splash that it made in the sea was quite visible. It was interesting to observe the various conflicting currents that we passed through. These and the heavy ground swell that we encountered were the first symptoms of the approach of the S. W. Monsoon, which apparently is going to be early this year.

Coinage.—We have now left the land of the Rupee and have to start on a series of different coinages—each of which in turn seems to have a twofold effect, the first being to make one lose on the exchange and then to make everything more expensive. Throughout Malaya the coinage consists of the Straits Dollar, which is fixed at 2s.-4d. and is divided into 100 cents. The English sovereign is thus worth \$8.57, but on the 2 occasions when I changed money, I only got \$8.55 and \$8.53. As expenses and prices of all sorts are reckoned in dollars, very much as they are reckoned in Rupees in India, it is not difficult to see why the country is an expensive one to live in.

System of Government.—Malaya, as far as we are concerned at present, consists of the Malay Peninsula and the islands of Pinang and Singapore.

The country is divided into 3 main sub-divisions. The Straits Settlements, which are British Territory and governed by a council under the Governor, who is the King's representative. The capital and seat of government is Singapore. Then there are the Federated Malay States, with their capital at Kuala Lumpur. The King's representative is here called the

NCEA

rasad Rao

q Ahmed

Sharma,

General Ba

AVSM, V

General SK

High Commissioner. Finally, there are the independent states, of which Johore is the principal.

Industries:—The chief sources of the wealth of Malaya are its exports of tin, rubber, and cocoanuts. Of these tin is perhaps the most important, 40% of all the tin used in the world coming from here. Rubber, as in Ceylon, has not yet recovered from the "Boom". Cocoanuts are a coming industry and not yet thoroughly developed.

The Far East:—We reached Pinang early on the morning of April 21st. Here we disembarked 3 brides who were to be married that day. To them, coming straight from England, it must have been a strange experience; it was quite unlike anything I had seen before, this my first sight of the "Far East", proper. Here was every class and colour of man and woman—white English, yellow Chinese, brown Indian and black Malay.

"*John Chinaman*."—My bitterest disappointment was to find that the Chinaman no longer wears a pigtail; this was a sign of subservience to the Manchu dynasty; now that that has been overthrown the pigtail has gone. The Chinaman himself, no matter what his class, struck me as being a very pleasant person, and extraordinarily clean. The rich Chinaman is generous and natural and pleasant to talk to. The shopkeeper is obliging, intelligent and apparently honest. The coolie is strong, hard working, willing and not extortionate. One of the first differences, between this part of the world and India, that strikes one, is the method of carrying weights. Instead of carrying everything on top of the head, the shoulders are always used. A bar called a "picul stick" is carried across the back of the shoulders; from each end of this the weights are suspended by ropes, exactly as in the scales with which "Justice" is always depicted. One result is that the Chinaman is short, squat and extremely muscular, but has not the free and erect bearing of his slighter, but taller Aryan brother, whose fine carriage can undoubtedly be largely attributed to his habit of carrying everything on his head. The Malay in appearance, as in his other characteristics is like a dark cross between an Aryan and a Mongol.

Pinang is an island off the extreme N. W. coast of British territory in the Malay Peninsula—the town and harbour bearing the same name are on the East side of the island and are connected with the main land by ferry. The town is a large one containing many fine buildings and very prosperous in every way. There is an excellent club, with good cricket and football grounds and tennis courts; also a race course and golf links. There are several fine hotels and a pleasant sea front on which one can sit and see as fine a sunset as you wish to anywhere.

Sight seeing. We spent 12 hours in Pinang and in that time managed to see quite a lot. The shops are good and it did not strike me as an expensive place.

In the morning we went by tram to the Aier Etam Chinese Temple. This is about 6 miles out from the wharf—a very pleasant drive, just along the Quays and through China town and then through cocoanut plantations—the first part is interesting but smelly, the last extremely picturesque.

The temple itself is well worth a visit. It is splendidly situated, being cut out of the rock on a steep hillside and the view from the top is very fine. There is a monastery of 32 monks, 3 temples and a library of over a million books. Some of the china, brass and lacquer are really magnificent, while the colouring throughout is grand.

A most pleasant monk, Mr. Kind Heart, showed us round, and was most polite and entertaining, explaining exactly why it was necessary to let off fireworks to frighten away any foreign devils we might have brought with us. He gave us excellent Chinese tea and fans and accepted our humble offering of \$2 each just as gratefully as if we had emulated some of our American cousins who had given him \$50 each. He also gave me a Chinese prayerbook and showed me exactly which prayers I had to wash my whole body before saying, and which it was only necessary to wash my mouth as a preparation.

On our way down again we passed through lovely gardens and tanks full of carp, goldfish and tortoises, which we fed.

NCE A

rasad Rao

q Ahmed

Sharma,

General Ba

AVSM, V

General SK

In the afternoon we drove out 4 miles in rickshaws, each drawn by one Chinaman, to the *Botanical Gardens*. These are not to be compared to those at Peradeinya. We also saw the waterfall and the reservoir which supply the town. At the head of the fall is the Crag Hotel, 2,260 feet above sea level.

On the way back we visited the *Chetty Temple* and greatly admired its carving and colouring. We finished the day by watching a football match between Europeans and Malays, in which the former were easily victorious. From this we returned to the ship via *the Fort* ; this is garrisoned by Sikh Police and is entirely for the protection of the European population in case of emergency. It has a very fine moat round it.

We reached *Port Swettenham* 20 hours later. This place has only been in existence 2 years ; it is the harbour for Kuala Lumpur, is situated up a river and is about an hour's steaming from the sea coast. It is extremely well situated, half way between Pinang and Singapore and as a lot of money is being spent on it, it is quite one of the coming ports of the world. At present it is a hot and dull spot and the 24 hours we spent there, were, to say the least of it, quite enough. The chief point of interest about it is to see how the experts have almost entirely eradicated malaria in so very short a time.

Singapore is only 18 hours from Port Swettenham and we arrived at 7 a. m. on April 24th.

Here are found the 2 submarines, A. E. 1 and A. E. 2 on their way from England to form part of the nucleus of the Australian navy. I went out and lunched on H. M. A. S. Sydney which had come to escort them to the Australian Station. I had never been on a submarine before and it was very interesting to see these two of the very latest type. I understand that they are absolute pleasure palaces compared to the old ones. Fearful and wonderful are the ways "of those that go down *into* the sea in ships," but in spite of the interest and the extra pay, I'm glad my fate decreed that I should serve His Majesty on land ! If I *had* to

The *climate* is a very trying one to live in for long—it is never very hot—90° F being an extreme heat, but the humidity is very great. There is some rain practically every day and frequent thunderstorms. All this, combined with the fact that there is never any cold weather, makes the climate of Malaya an enervating and trying one for Europeans, although I found it very pleasant just to stay in for a week.

One effect of the climate is, that all vegetable life grows in great luxuriance; in addition the green of the grass and trees combined with the red soil of the roads, give a freshness to the landscape generally which is very restful and pleasing after the glare of India. The residents keep European hours, at any rate in the towns. The *shooting* is good, particularly snipe for which the district is famous. There is also big game in abundance, though one peculiarity of the country is that all its animals are considerably smaller than those of India. There are elephant, tiger, satadang (a small bison), panther and bear, in addition to numerous deer. On account of the mangrove swamps and the thick and impenetrable jungle the big game shooting is very difficult, and is not greatly sought after.

Defences. The inhabitants appear peaceful and contented under British rule. The police are almost entirely Sikhs, with some Malays and a few Chinamen—the last being mostly detectives. There is one Indian Infantry Regiment at Tai Ping not far from Pinang, otherwise the whole garrison is as already described at Singapore.

Singapore may be described as the Gibraltar of the East. It is a very important link in that chain of forts, of which Malta, Aden, Colombo and Hong Kong are other links. Besides being a great centre of British commerce, it possesses great strategic value as a coaling station.

The question of its defence is one that gives much food for thought. Unlike Gibraltar, it is not naturally strong; further, it is open to attack from the land side. Its defences, from a military point of view, consist of a chain of forts stretching along the islands which protect its harbour from the sea. These are manned by the R. G. A. and R. E. who

live on those islands. The Infantry and moveable Artillery are for use against a raid by land.

It is hardly necessary to draw attention of the fact that the garrison is quite inadequate to make anything more than a very temporary resistance against an attack in force. Here, as in the case of Ceylon, and I fancy most of our Colonial possessions, our finest and best defence, lies in a strong and concentrated Navy, acting always on the offensive. Looked at from this point of view, my visit to the Cruiser of the new Australian Navy, H. M. A. S. Sydney and the two submarines, has become of double interest to me.

It is indeed a true saying "What can they know of England, who only England know." And so one learns one lesson of the true meaning of "Imperial Strategy."

DESPATCHED FROM HONG KONG,

6th May 1914.

Letter III. South China.

Voyage:—We sailed from Singapore on the P. & O. China Mail S. S. India (8000 tons) at 6 p.m. on Friday, May 1st. The voyage up was wet, and rough owing to our coming in for the tail end of the N. E. monsoon. We reached Hong Kong at 7 a.m. on May 6th. As the entrance to Singapore Harbour was beautiful so this was grand. Hong Kong struck me as being like a green Gibraltar.

All the ships in harbour were dressed in honour of the *Accession Day* of King George V. Most noticeable of them all was the mighty new Canadian Pacific Liner "Empress of Russia," which does the 4,800 miles from Yokohama to Vancouver in 9 days. She is a beautiful looking boat.

There were no *men of war* in harbour except the Triumph, guardship and an American gunboat. The British Fleet is at Wei Hai Wei. The Chief Lord of the Admiralty's recent statement that there are some 40 British men of war quartered on the China Station is quite correct. The question, that drew this answer, was asked with reference to the recent

piracy on a ship, flying the British flag, up the Canton River, some 30 miles from Hong Kong, Mr. Churchill quite omitted to state that this fleet is now some 1000 miles from Hong Kong and further that boats of over 2000 tons cannot navigate these rivers with any degree of certainty!

Hong Kong. We spent the day in Hong Kong and taking the low level tram saw all the *sights*, including the Polo ground, Race Course, Infantry Barracks and Tennis Club. In the evening we went up the Peak by the Funicular Tram, some 1,300 feet. From the terminus we took chairs and went to the Signal station at the top of Victoria Hill (1823 feet.) From here the view was magnificent—a lovely panorama of sea, island and mainland spread all round us, lit up by a glorious sunset.

The Peak:—After this we went down again and *via* the Peak Hotel and the Peak Club to dinner with some friends. In the evening we went down again by tram and sailed at 10 p.m. for Canton.

Coinage and Conveyance. Hong Kong has a dollar of its own divided into cents. This dollar is fluctuating in value, but is usually worth just under 2s. Consequently prices and living generally are not as expensive as in Singapore.

Here one meets a new form of *conveyance*—a chair, carried by either 2 or 4 men. It is very like an uncovered Indian sedan chair but is carried on the principal of the palanquin on the men's shoulders. There are no draft animals at all in Hong Kong, all draft work is done by coolies harnessed to trolleys. The number of motor cars is very small, I only saw 4. The consequence of all this is that except for the electric trams the place is singularly quiet. The *climate* when I was at Hong Kong was extremely pleasant, cool without being cold. In the summer, however, which is just coming on, it becomes damp and stuffy and there are bad fogs.

A Cook's Tour. We did a 2 days' circular trip to Canton and Macao arranged by Thomas Cook and Son. Each ticket cost \$33 (about £3. 6. 0) and that covered absolutely every expense except drinks and smokes, even including tips. It proved a most excellent system in every way. We left in

the S. S. Kinshan (1800 tons) at 10 p. m. and arrived at Canton at 7 a. m.—the boat was exceedingly comfortable, as were all the boats of the company in which we travelled on this tour.

The *Canton or Pearl River* up which we went some 90 miles is full of shifting sandbanks and we stuck on one for an hour, just about 5-15 a. m. The noise we made getting off woke me, and I saw the finest sunrise I have ever seen. The ordinary mortal cannot understand why the Chinese call this dirty, muddy yellow, unpicturesque stream the Pearl River, but anybody who has seen the light of the sunrise on it, as I have, can be in no doubt as to the appropriateness of the title.

Pirates form the one topic of conversation in these parts—a river steamer of some 1400 tons having been burned out by them last month—1 Englishman and countless Chinese lost their lives. On all these ships the bridge is protected by armoured doors and a grille—the officers are armed and there is an armed guard of 4 men carried as well. One of the captains told me the only real use of the grille was to keep inquisitive Americans off the Bridge!

On the Taion, the ship that was burned the other day, the pirates embarked as passengers,* and tried to kill the crew and scupper the ship among the nine Islands, close to Macao, some 30 miles from Hong Kong. They got a much warmer reception than they bargained for, however, and failed to get off with any booty. The Captain, chief engineer, and Portuguese guard were specially thanked by the Governor for their bravery. Lots of the pirates were burned and some 30 more have been captured—one was a woman who had a mauser pistol strapped to each thigh inside her clothes!

Canton itself is a wonderful place and is supposed to be the most Chinese town there is. You cannot go without a guide, who is a good class Chinaman and really vouches for the respectability of the Foreign Devils he is showing round! The streets are nowhere more than 8 feet wide, generally

I
A
ENCES
rasad R

q Ahm

Sharm

eneral

AVSM

eneral S

about 6. There is an ever flowing tide of humanity surging through them—every body is busy, cheerful and polite—there is no jostling and still some 2 million people are cooped up inside these city walls which measure 6 miles round. Another million live permanently in sampans on the water and so escape paying any rent or taxes! These are the lowest caste in China, they and the theatrical caste being lower than the ordinary cooly even.

To my mind the most *interesting* part of Canton was the street scenes. There are, of course, innumerable temples, pagodas, cemeteries, shops and industries, but nothing is so wonderful as the Chinaman and woman and their life, not even their death. He strikes you as a calm, peaceful and happy individual, yet the police guarding the doors at the end of every street, and these same doors themselves, are quiet testimony that he is not always so. When roused he is a mad, inhuman devil lusting for blood. By closing these doors any riot can be at once isolated.

In addition to *police* there were crowds of *soldiers*. The former were armed with pistol and baton, the latter with mauser rifle, 2 bandoliers full of ammunition, and sword bayonet. In these disturbed times since the revolution, there is no telling when and where stirring events may not occur. The post of Governor General is no sinecure and he is guarded on all sides in his Yamen and when he goes out.

A middle class dwelling house was one of the most interesting sights we saw. There is no front doors, but bars like a loose box. The family live in the front room, which is nicely furnished with black wood furniture—the servants live in the kitchen at the back. The sleeping room for the whole family is over the kitchen. Water is laid on in every house, which is a great boon as the Chinese are essentially a cleanly nation. A Chinaman has to keep a separate house for each of his wives—they would fight if they lived together.

The chief *sights* are the Flowery Pagoda, 1000 years old, the Water Clock 1500 years old, the Kingdom of Hell, the

Temple of the 500 Genii, the City of the Dead, the ivory carvers and the king fishers' feather workers.

The *European* part of the town is on an island by itself and is called Shameen. It is very nicely laid out and prosperous looking. There are 2 French and 1 German gun boats always at Canton and there are at present 3 British down the river.

We left at 4-30 p.m. on the Sui An and reached Macao at midnight. We were met at 8-30 a.m. by our guide and started sightseeing at once.

Macao is the oldest European settlement in the Far East, having been founded by the Portuguese in 1557. In 1887 it was ceded to them in perpetuity. It is 6 miles by 4—a rock promontory near the mouth of the Canton River and 35 miles from Hong Kong. It is a picturesque old place, very like San Remo or any small Riviera town. The Portuguese part is beautifully kept, broad roads, electric light, lovely gardens and nice houses, but the town and Chinese quarter is filthy, with narrow cobbled streets and sordid to a degree.

The *garrison* consists of one Regiment of Infantry, who are used almost entirely for Police work, being assisted by some Goanese police. In addition there are artillery and Engineers quartered in the several forts. These are all kept strictly secret, but their positions are all death traps on the tops of prominent hills. The muzzles of the guns that I saw projecting were those of 64 prs: R. M. L.

The *infantry* are armed with a mauser rifle and sword bayonet and dressed in khaki with Baden Powell hats. The men come out for 2 years but many stay longer. I went into their barracks, which are clean and tidy and in a lovely position right on the sea front above the public gardens. The barrack rooms are large and airy and the arrangement is similar to our own, except that stands, like hat stands for a hall, are provided. The officers' quarters, office's and men's rooms are all in the same block, much too close together from our point of view.

We saw *opium* made. The annual revenue from this alone is over £100,000. The leaf of the poppy is boiled with water. At the same time the juice is extracted from the flower. The two are then boiled together to the consistency of liquorice, the result being opium.

The manufacture of *Chinese tobacco* was the next thing that we saw. The ingredients are tobacco leaf, cocoanut oil, rum, red pepper and red ink, all mixed together by foot! This mixture is then pressed into cakes in a very simple machine made of wood and rope; the cake is then shaved with a carpenter's plane and the product is Chinese tobacco sold at 30 cents per lb and smoked in a waterpipe that looks like a tin odol bottle!

Here we saw the *country house* of a rich Chinese merchant—lovely gardens, and rockeries, an aviary, tea house and a lake that smelt like nothing on earth. On this the house was built; it was very nice but very English and at the same time extremely uncomfortable looking. It was interesting to notice that every body, Portuguese and Chinese alike, used mosquito curtains.

The *finest thing* in Macao is the ruined facade of the Cathedral of San Paolo, built by the Jesuits in 1525 and destroyed by fire in 1830. Whether seen from the foot of the long flight of steps leading up to it, or standing up against the sky in the distance, this wonderful ruin serves to remind us of the greatness of the Jesuits at the time when Portugal was in the zenith of her power.

Finally we visited a *gambling den* where Fantan is played and opium smoked in the intervals. There are 23 of these houses in Macao and their annual yield to the Portuguese Government is £75,000. It really does seem a shame that a Christian government like Portugal should trade on the well known vice of the Chinaman in the way it does. There is no play in Fantan, it is a sheer gamble—the odds paid by the bank are 3 to 1 and the bank takes 10% of the winnings as well as all losings, so it is really impossible to win. The minimum stake is 5 cents and the maximum \$1,500.

The game of *Fantan* is delightfully simple. The banker pushes out a heap of small coins in front of him. You bet how many will be left when the whole has been counted out 4 at a time. A cooly earning \$10 to \$15 a month will save till he has \$100 and then go and blow the lot in an evening. It is no uncommon sight to see a man selling his watch and clothes. As long as you gamble the house will feed you and give you bed, drinks and opium free till you are destitute! At night is the time to go, then you often see the maximum staked. There is no better winner or loser in the world than John Chinaman.

We got back to Hong Kong at 6 p. m. on May 8th and went out yachting to see the wreck of the *Tai On*—a ghastly sight where she has been abandoned on the opposite side of the harbour. The view of Hong Kong looking across the water by moonlight is one not easily forgotten.

We spent the night at the Hong Kong Hotel, where we were very comfortable—charge \$8 per day. The following morning we embarked for Shanghai on the Pacific Mail S. S. Korea (18,000 tons.) Hong Kong struck me as tremendously strong from a defensive point of view, very different to Colombo and Singapore.

The total cost of our 3 days stay and trip was well under £5 each.

DESPATCHED FROM SHANGHAI.

12th May 1914.



Reviews of Books.

The Times (London) History of the War.

The first three parts of the above work, which has been undertaken by the Times, arrived in India by the last mail, and we are told that weekly parts will be issued in future. At first thought it is somewhat difficult to understand how a "history" of the war can be compiled at the present juncture and it is probable that the work must be rather a narrative of events than a history in its truer sense. For, especially under the present circumstances of extraordinary secrecy, it must be impossible to gauge the significance of events without knowing the original and modified plans of the various commanders; and these are not likely to be disclosed for many a day.

However, the three parts now to hand, deal with matters prior to the outbreak of war and as such may be regarded as historical.

Chapter I gives a good and concise account of the main features of European politics during the past 25 years, and shows the various interests and incidents, which have brought about the present grouping of the powers of Europe. While there is not much that will be new to the student of international politics, the reasons which have lead to the alliance of so many and varied nationalities against Germanic power are clearly set forth.

Chapter II deals with the recent history, strength and ideals of the German Army. While some inaccuracies as to numbers and organisation occur, the summary of the problem which faced the German strategists and the probable methods they would take to solve it, is a good and easily understandable appreciation, and as far as one can judge a relatively accurate forecast of events.

The remainder of the publication, as far as already to hand, deals with the English, German, French, Austrian and Russian Navies and the French and Belgian Armies. These chapters are of interest as showing the recent historical development of the services described as well as details of their relative strengths. The anticipations of probable French strategy are hardly as happy as those given in the case of German action, but this is possibly because the French had a harder situation to appreciate and their best course of action was consequently more difficult to divine.

The work is written rather in the "popular" vein and, as far as at present published, contains little which the ordinary soldier does not know as to the causes of the war and the strength of the combatants. It presents a clear and particularly concise summary however, and one can hardly judge of its Military value until further volumes, dealing with the actual events appear. That these latter volumes, issued week by week, can give anything beyond a narrative, based from the accounts of one side only, is hard to conceive.

The work is illustrated by many excellent portraits of the prominent men of all nations engaged together with maps and illustrations of places of interest in the theatre of war.

Technique of Modern Tactics—by Majors P. S. Bond and M. S. McDonough of the Corps of Engineers, U. S. Army. (George Banta, Publishing Company Menasha, Wisconsin). Price \$ 2.65.

The purpose of this book is given on pages 7 and 8 of the introductions from which the following may be quoted. "Nearly everything contained in this volume can be found elaborated in special treatises, but time is of value to the military student, and this work gives in a single volume authoritatively the data that must otherwise be searched for through a small library".

The book is therefore admittedly a "cram" book of the usual type. Its value as to authoritative data would have been increased if more references had been given. There are very few throughout the book.

The following quotation is also taken from the Introduction.

"For the officer charged with the conduct of garrison schools, militia instruction, field manoeuvres, war games, the preparation of lectures and problems, etc., it is believed that this volume will form a valuable ready reference. And of equal importance will it be to the officers of the army or militia, compelled, for any reason, to study alone. To such, the book is a silent instructor, a guide, a critic. To officers preparing for promotion examinations, and to those at the Service Schools or preparation therefore, it has special application."

This quotation again accentuates the limitations of the book. It only caters for students who must cram. There are possibly many of this class of student in the U. S. Army, and for them the book is exactly what it pretends to be. For British officers who really have no time to do more than cram, the way recommended for using this

book is as follows. The student should mark against each statement, or piece of advice, the corresponding para of F. S. R. Part I, Cavalry, Infantry, or Field Artillery Training, where the same idea is set out. He should then compare the two, and note the difference between American and British ideas. This will help him to remember the British regulations on each point.

A very comprehensive Bibliography is given on pages 33 and 34. It is called a short list, but contains the names of 43 well known standard works, including Clausewitz and the U. S. Army Regulations. It may be noted that the Field Service Regulations of the British Empire are not included. The writers profess to have consulted all these works. Their industry can be admired, also their ingenuity in compressing the list into a volume of 350 pages.

After the introduction, which deals with the necessity for military education of the nation in the usual terms, but is nicely put, follow some notes on the organization of the U. S. Army, and tables of road spaces and camp dimensions, ending with a table of "headings" for appreciations. The latter is too long, but may be useful for a beginner.

Chapter I deals with the preparation and solution of tactical problems. The writers shew a preference for map problems over problems on the ground. It is not easy to follow their idea in this. The tendency of this chapter is very academic, as are other parts of the book.

In Chapter II, on field orders, "crisp, epigrammatic verbiage" is recommended. Whether this is sound for an army consisting chiefly of militia, it is not for us to say. But even British officers should beware of not suiting their orders to their troops. The "Short order" is not always suitable, as was found in 1893-1902.

A drop in plane occurs in Chapter III, where patrolling is discussed. The information is put rather better in Cavalry Training, 185-188.

In Chapters IV and V, Advance, Flank and Rear Guards are dealt with. The subject matter is good, but there is a tiresome mixture of principles and meticulous detail.

Chapters VI and VII, on Marches, Camps and Convoys contain nothing new, except perhaps some useful practical points about attacking convoys, on pages 95 and 96.

The chapter on Artillery Tactics, (Chapter VII), is useful to officers of other arms, as the principles are clearly stated. But officers

must be careful to compare the detail with our own Field Artillery Training.

Chapter IX, on Cavalry Tactics, is in general accordance with accepted principles. It contains much the same matter as is given in Cavalry Training Chapters X to XII. The depreciation of night work is noticeable.

Chapter X, on Outposts, is written chiefly with a view to helping the solution of paper schemes.

Chapter XI--Combat. The part of this chapter which deals with the attack is rather confusing, this is probably because it deals with academic solutions of problems, and so is difficult to read alongside F. S. R. I. Chapter VII. One sentence, printed in italics, is particularly hard to understand. "The best disposition for the attacking infantry is the primary consideration in determining which flank to attack." This is followed by the statement that if in doubt as to the best flank of the enemy, tactically, the strategical flank should be considered. The writers try to make the same rules for large as for small forces. But the great mistake is in trying to lay down any rules at all. Our own F. S. R. I., Chapter VII, is much better than this exposition. Some useful notes on expenditure of ammunition are given on page 290.

In discussing the tactics of the defence, the writers take quite a different view to our Regulations, particularly as to the employment of the General Reserve. No distinction appears to be made between local counter attacks and the decisive counter attack.

The specimen orders given in this chapter should not be copied by British students.

The parts of our Training Manuals corresponding with Chapter XII (The organization of a defensive position) will easily be recognized by officers who have worked for promotion examinations. It will be noted that the authority chiefly quoted is an English officer. The Field Fortification problems worked out as specimens are useful.

In Chapter XIII, Combat is reverted to under several minor heads. The attack and defence of a river line is given some prominence. Night operations are dismissed somewhat curtly. This again is due to the academic character of the book.

Chapter XIV deals in detail with a heading into which our Regulations do not enter fully—*viz.* "A position in Readiness". From the text, it does not correspond to positions of readiness for cavalry or artillery in battle, but it outlines a procedure for the commander

of a mixed force who does not quite know what to do. There seems no necessity for this chapter.

Chapter XV, Sanitary Tactics, deals with the evacuation of the wounded. It is concise and explains the gist of the matter diagrammatically.

Chapter XVI is the most practical chapter in the book. It is very elementary, and concludes with a catechism such as students at Hythe will easily recognize.

Chapter XVII, Notes on Division Tactics and Supply, is more of a summary of preceding chapters, with the Supply portion added. It contains some useful graphics and diagrams.

On the whole, this book is not of much use to officers of the British forces. These have all the principles given them in their Regulations and Training Manuals. For "cram" purposes they should use "cram" books which agree with the Regulations of the Empire more closely. There are many of such books to be had. The chief use of the book is in giving a standard of comparison, and in refreshing a memory as to the standard works from which the ideas are drawn.

The American spelling is somewhat irritating; so is the constant mixture of the second and third person throughout the book. The maps and plans are clear, and the book is very well got up for the price. The chief map referred to, however, must be obtained separately.

Training in Night Movements, by First Lieut. C. Burnett 4th Cavalry, American Army. Published by the United States Cavalry Association.

This book is the translation by an American officer of a most careful and painstaking study by a Japanese officer of night work, the influence of darkness on troops and the methods to be used in training troops for work at night.

Each section of the book is divided into two parts; one discusses the influence of night on the task under consideration; the second the methods of training to used to minimise or eliminate the difficulties caused by darkness.

The book commences with the training of the individual soldier, and discusses several subjects to which little attention is generally paid in our army, such as rapidly putting on clothes and accoutrements at night, methods of making a light and cloaking it to prevent it being

date of issue. Per Reg : Post.

Date of Issue	Return.	Date of Issue.	Return.

